EXHIBIT 6

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Multiple factors in the long-term effectiveness of contingent electric shock treatment for self-injurious behavior: a case example

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Abstract

This report describes the effective treatment of self-injurious behavior (SIB) using contingent electric shock in an adolescent. Data are presented to document the initial dramatic reduction in SIB and the ongoing effectiveness of the treatment over a 5-year period. Positive side effects of the intervention are documented, as is information on the interaction of a medical condition (e.g., ear infections, fever), psychoactive medication status, and staff changes that served to effect the rate of SIB across 4 years of treatment. Recognizing and attending to these various factors has served to insure the success of the aversive intervention with very low rates of SIB and, consequently, very low rates of the administration of electric shock. Keeping the rate of administration of shock low serves to decrease the chances of habituation to the shock thereby emphasizing the importance of attending to the individual's total medical, social, and administrative environments.

Keywords: SIB; electric shock; follow-up

1. Introduction

Self-injurious behavior (SIB) has proven to be one of the most difficult behaviors to treat effectively (NIH, 1991). There are over 46 studies documenting the effectiveness of contingent electric stimulation in the treatment of self-injurious

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behavior (Duker & Seys, 1996). This body of research suggests that contingent electric stimulation is generally effective in initially reducing the rates of SIB. Of particular interest, in light of the potential for serious medial consequences of this behavior, is the rapid and dramatic reduction in the rate of SIB seen in many of the studies. Despite the large number of studies reporting the use of contingent electrical stimulation, there are few reporting long-term follow-up.

In a recent series of studies, SIB has been successfully treated using the self-injurious behavior inhibiting system (SIBIS) (Linscheid, Iwata, Rickets, Williams, & Griffin, 1990; Linscheid, Haertel, & Cooley, 1993; Linscheid, Pejeau, Cohen, & Footo-Lenz, 1994; Ricketts, Goza, & Matese, 1993). SIBIS was specifically designed for use with humans by the Applied Physics Laboratory at Johns Hopkins University. SIBIS consists of a sensor module worn on the head that is capable of detecting blows to the head. The device also includes a radio transmitter that sends a radio signal to the stimulus module (usually worn on the leg) that then administers a 200 ms electric shock with a maximum current of 3.5 mA. The system also has a remote activator, a hand-held, wireless device, that can be used to activate the stimulus module to deliver a shock (see Linscheid et al., 1990 for more details). SIBIS has been shown in these studies to be generally effective in suppressing SIB, but there have been reports suggesting that various environmental or administrative factors have the potential to interfere with long-term effectiveness.

Ricketts et al. (1993) reported a case in which an individual, who had initially shown significant reductions in the rate of severe SIB when treated with contingent electric shock (SIBIS), gradually increased the rate of SIB until it returned to near pre-treatment levels. Many factors may have accounted for the return of the SIB, including the fact that the treatment was conducted during daytime hours only, 5 days per week. This restriction in time spent in treatment with SIBIS was based on an administrative decision to allow the treatment only when professional level staff could supervise it. It may be speculated that socially motivated administrative concerns may have interacted with the effectiveness of contingent electric shock in this case. Linscheid et al. (1993) described one case in which SIB rates increased when personnel became less diligent about administering the treatments as prescribed, and Williams, Kirkpatrick-Sanchez, and Crocker (1994), demonstrated variations in the effectiveness of contingent electric shock when the procedure could not be implemented consistently due to staff considerations.

In a recent report, Duker and Seys (1996) found that of 12 cases, contingent electrical stimulation failed to suppress SIB in two individuals, produced near total suppression in seven individuals and showed a moderate response to the treatment for three individuals. The three individuals who showed a moderate initial response to treatment demonstrated an enhanced response to treatment when psychopharmacological and behavioral interventions were coupled with the contingent electric shock. Despite a rather dramatic response in 7 of the 12 individuals, it appears that for 3 individuals contingent electric shock needed to be combined with medication and environmental changes in order to produce the desired degree of suppression of SIB.

These reports suggest that medical, behavioral, and social factors in the individual's environment may interact with the effectiveness of contingent electric shock. The relative influence of these factors may change over time so that modifications in the electric shock program itself, as well as in medical and environmental treatments, may be required to maintain clinically meaningful suppression.

The present study reports the case of a 15-year-old male with long-standing severe SIB who initially had a dramatic response to treatment with contingent electric shock using SIBIS. Over time, the effectiveness of contingent electric shock for suppression of SIB was found to be related to changing medical conditions, psychopharmacologic agents and environmental situations. Factors that must be considered in order to maximize the effectiveness of contingent electrical stimulation are identified.

2. Method

2.1. Participant

Wade entered a county school program when he was 15 years old. Previously, he had been enrolled in segregated and inclusive school programs in three different states. Upon admission to his current school, Wade demonstrated self-injurious head hitting (hand-to-head) and torso pinching and picking. In addition to the self-injurious behaviors, he engaged in near constant yelling. At the time of treatment and throughout his life, Wade lived with his natural parents. Prior reports listed Wade as untestable, with a diagnosis of mental retardation with autistic-like behaviors. Parents reported that Wade was developing at a typical rate until around 2 years of age, when he began head hitting. His development then regressed, specifically in the areas of language and social interaction.

Although prior records were incomplete, parents reported that many different types of interventions, both behavioral and pharmacological, had been used in the treatment of Wade's SIB with no long-lasting improvements. Prior interventions included timeout, numerous positive differential reinforcement programs, physical restraints, and protective equipment. Prior pharmacological treatments included Haldol, Mellaril, Ritalin, Lithium, and Thorazine. None of these past approaches had shown any long-term success in reducing or eliminating self-injurious behavior; Wade spent the majority of his time in physical restraint. Medical history was positive for chronic ear infections, a surgically repaired hernia at age 18 months, and a ventral-septal defect.

Systematic observation of behavior across numerous stimulus and environmental conditions suggested that SIB occurred with approximately equal frequency in all settings. The primary form of SIB was a blow to the face and head with both or either hand. When physically restrained from hitting, the frequency of body picking and pinching increased. Self-restraint, which occurred when Wade was not in some type of mechanical restraint, was common and served to decrease the rate of head hitting. Self-restraint resulted in increases in body

picking and pinching. Years of self-injurious head and face hitting had produced permanent discoloration of Wade's jaw, "cauliflowered" ears, and a large build-up of scar tissue. Body picking produced many scars and scabs that covered his entire torso and upper thighs.

Initial attempts to reduce or eliminate self-injurious behavior in his current school program included placing Wade in elbow restraints, which reduced body picking and head hitting, but did not eliminate the constant yelling. Also, the arm restraints made it impossible for Wade to participate in any form of learning that required physical manipulation of objects, and in independent living and self-care skills. Efforts to reduce restraints were unsuccessful because of the high rates of SIB when restraints were faded or reduced. The loud volume of Wade's screaming and yelling also made it very difficult to communicate with him. In the home environment, Wade was physically restrained 100% of the time prior to treatment with SIBIS.

Attempts at positive, non-aversive interventions were very difficult to complete because of the high rate and intensity of head-hitting and pinching behavior. Systematic programs of differential reinforcement for the absence of SIB and yelling were in place throughout the time prior to intervention with SIBIS, and for the 5 years that Wade has been followed. These programs provided a visual menu of reinforcers individualized for Wade, including, edible rewards, the opportunity to go for rides with staff, breaks from work tasks, etc. In addition, all staff were instructed to provide praise for educational task completion, appropriate behavior (waiting his turn, etc.), and absences of SIB and yelling. In addition, pictures of activities on Wade's daily schedule were used to signal transitions in activities.

2.2. *Functional analysis*

In an effort to determine the factor or factors maintaining Wade's SIB, a brief functional analysis was conducted over a 5-day period at Wade's school by the behavior management specialist. Four conditions were utilized and five sessions were conducted in each condition. Each session was terminated after 15 min or, in order to prevent injury to Wade, after 25 head hits. The functional analysis was initially conducted without the use of air splint restraints. Without these restraints, Wade's rate of head hitting was so rapid that it was questionable whether the differential contingencies were capable of affecting the rates of behavior; therefore, the analysis with the same conditions was repeated with Wade wearing restraints. With restraints in place, head-hitting frequency was reduced and, therefore, there were more opportunities for the differential contingencies to become operative.

Three of the conditions (Attention, Demand, Alone) were similar to those utilized by Iwata et al. (Iwata, Dorsey, Slifer, Bauman, & Richman, 1994). The fourth condition commonly utilized in the Iwata model, Play, was not utilized because it so closely mimicked the contingencies that were nearly always in effect; specifically, the use of near constant attention and efforts to get Wade to interact with toys or other educational objects while differentially ignoring his SIB. Instead, a "Lunch" condition was utilized. The functional analysis conditions are described below.

Attention: Wade was seated at a table with educational materials and toys. An attendant sat across the table from him and ignored all behaviors except SIB. On the occurrence of SIB, the attendant spoke to Wade with phrases such as, "Stop that Wade," "No hitting," or "You're going to hurt yourself."

Demand: Wade and an attendant were seated across from each other at a table and the attendant attempted to engage Wade in appropriate educational tasks. Upon the occurrence of head hitting, the task was removed and the attendant turned away from Wade for a minimum of 15 s. The attendant did not present the task again until head hitting had been absent for 15 s.

Alone: Wade was seated at a table in a room devoid of toys or interesting materials. The attendant was not in the room during this condition.

Lunch: In this condition, Wade was seated at a table with his lunch and was allowed to eat as he chose. An attendant sat with him and assisted with cutting meat, etc., but ignored his SIB. This was meant as a Control condition, conceptually similar to the Play condition utilized by Iwata et al. (1994), as there were no demands placed on Wade and the staff considered Lunch to be a preferred activity for him.

2.3. Initial Evaluation

An Initial Evaluation of the effectiveness of contingent SIBIS for treating Wade's SIB was conducted at a regional medical center. The purpose of the Initial Evaluation was to assess the effectiveness of SIBIS in a controlled environment prior to the decision to implement the treatment in Wade's home and school.

With the exception of a 1-hr lunch break, Wade was observed continuously for a 3 hr and 25 min. The number of head hits (defined as self-initiated forceful contact between hand or fist and head) was recorded in 5-min blocks. Three assessment conditions were utilized. In all conditions, Wade was seated on a chair between his mother and the second author. He wore inflatable air splints on each hand so that the intensity of blows to the head was diminished. His mother and the second author intervened verbally ("don't hit") and with a light touch to his hands when the rate became excessive (one hit per second for more than 10 s).

Baseline: Wade was allowed to hit his head at will. His mother and the author in the room with him interacted with him only when the rate of SIB became excessive as described above. The Baseline period lasted for 10 consecutive minutes.

Control: This condition was identical to the Baseline condition except that Wade wore SIBIS, but it was not activated, therefore, he did not receive a shock contingent upon head hits. This condition allowed for the assessment of the effects on head hitting of simply wearing the device. This condition was included because Wade had worn helmets in the past; therefore, the presence of the SIBIS sensor module on Wade's head may have affected his rate of SIB (cf. Linscheid et al., 1990). This condition lasted for 10 min.

SIBIS: SIBIS was now activated so that each blow to the head resulted in the administration of a single electric shock.

After 20 min of the SIBIS condition, the Control condition was reinstated for 10 min followed by a return to the SIBIS condition for 150 min.

Two observers independently counted number of head hits during all of the initial trials in 5-min blocks. An index of reliability was calculated by dividing the lesser count by the larger count and multiplying by 100%. This index ranged from 92 to 100% with a mean of 98.1%.

2.4. School-Based Trial

With confirmation from the Initial Evaluation that SIBIS may be an effective treatment for Wade's SIB, an intensive school-based evaluation was undertaken. Using data from the Initial Evaluation, approval for implementation of an aversive treatment was obtained from the appropriate behavior management and human rights committees.

A modified multiple Baseline design was utilized across morning and afternoon school sessions. Both morning and afternoon sessions were 3 hr in length. Observations of targeted treatment and other behaviors indicating positive side effects were recorded throughout Wade's normal school day for 3 and 1/2 days. On the fourth school day, SIBIS treatment was initiated in the afternoon only. On school days 4, 5, and 6, Wade was not treated with SIBIS in the morning, but was treated with SIBIS in the afternoon. On days 7 through 15 of the School-Based Trial, Wade was treated with SIBIS throughout the school day. This design allowed for assessment of Baseline rates of behavior in both morning and afternoon on days, 1, 2, and 3, and the assessment of the effectiveness of SIBIS in reducing SIB in the afternoon on days 4, 5, and 6. In addition, the morning sessions on days 4, 5, and 6 provided a Control condition for the effects of SIBIS treatment conducted only in the afternoon on those days. Throughout the School-Based Trial, only head hits were treated with SIBIS. Wade's then current behavior program of providing periodic social praise and tangible reinforcers for the absence of SIB was continued (DRO) throughout the trial in all conditions.

The rate of the following behaviors was assessed throughout the evaluation.

Head Hits	As defined above.
Pinches	Placing of a small piece of skin between thumb and first finger with the observable application of pressure on the skin.
Laugh	A vocalization indicating a positive affective state in the absence of any indicators of distress.
Smile	An upturn of the corners of the mouth with the absence of any indication of distress.
Self-Initiated Socialization (SIS)	Wade voluntarily approaching within .6 m of another individual in his environment.
Self-Initiated Communication (SIC)	Any behavior by Wade indicating his needs or desires to another individual (e.g., taking someone's hand and leading them to the refrigerator).

SIS and SIC may seem similar but it was decided to differentiate the behaviors. Wade avoided being close to others in his environment, but had on occasion shown a willingness to indicate his needs by gesture. It was judged important to determine whether treatment with SIBIS affected his willingness to be in close physical proximity to others and to communicate his needs. One could have occurred without the other.

The frequency of Wade's pinching and hitting behaviors was recorded for morning and afternoon school sessions for 3 days with no change in his usual school routine. The behaviors of Laugh, Smile, SIS, and SIC were recorded using a partial interval recording system with interval length set at 15 min throughout the School-Based Trial. Reliability was assessed on 5 of the 15 days (33%) during this phase. For Hits and Pinches, reliability was determined by having two observes independently count the frequency of each behavior. An index of agreement was determined by dividing the lesser count by the larger and multiplying by 100%. For Hits, the index of agreement ranged from 90 to 100%, with a mean of 97.8%, for Pinches, the range was from 83 to 100%, with a mean of 94.9%. Reliability of the behaviors recorded using the partial interval recording procedure was determined by the formula (agreements/(agreements + disagreements)) × 100%. An agreement was defined as an interval in which both observers scored the occurrence of the behavior. A disagreement was defined as an interval in which one observer scored the occurrence of a behavior, but the other observer did not. Intervals in which neither observer scored the occurrence of the behavior were not used in the calculation of reliability. The mean percent agreement for Laughs, Smile, SIS and SIC was, 96, 74, 100, and 75%, respectively.

2.5. *Ongoing evaluation and monitoring*

After the 15 school days of intense observation and evaluation, it was decided to continue the treatment with SIBIS and to monitor only head hits. For 30 days following the end of the School-Based Trial, SIBIS was used in the school setting only. Treatment with SIBIS was then extended to the home with Wade's mother as the primary observer. SIBIS has an internal counter for recording the number of shocks administered. Mother was asked to record the number of shock delivered each day at home, and this was checked against the internally recorded number of shocks administered. This served as a safety check on the use of SIBIS in the home where school personnel were not present to monitor the number of shocks administered. Ongoing monitoring by school staff during the weekdays and by mother in the home evenings and weekends has continued for 5 years with adjustments to the program as described in Section 3. Positive programs reinforcing absence of SIB and yelling, and access to reinforcers for task completion remained in effect throughout this period with only minor changes, generally to incorporate more reinforcer choices.

3. Results

3.1. Functional analysis

Rates of head hitting were extremely high across all sessions and functional analysis conditions when Wade was not wearing his restraints. All sessions had to be terminated in much less than 30 s because of reaching the 25 hit limit. There was no indication of differential rates by conditions apparent from this analysis. Mean rates of head hitting across the five sessions for Attention, Demand, Alone and Lunch were 100.4, 91.6, 111.8, and 130.6 hits per min, respectively. Dramatically lower frequencies were obtained during sessions when Wade was wearing his restraints. Again, no clear pattern of differential rates was observed while wearing restraints. The mean head hitting rates across the five sessions for Attention, Demand, Alone, and Lunch were 5.5, 5.9, 5.7, and 5.4 hits per min, respectively. The observed lack of differential response rates suggested that head hitting was either maintained by multiple factors or by a factor or factors which were not a component or components of the functional analysis (cf. Linscheid et al., 1994).

3.2. Initial Evaluation

Results from the Initial Evaluation are presented in Fig. 1. During Baseline, the rate of head hitting was high and stable across the two 5-min blocks. An initial reduction occurred during the first 5 min of the Control condition, with some recovery toward Baseline occurring in the second 5 min. A rapid and dramatic

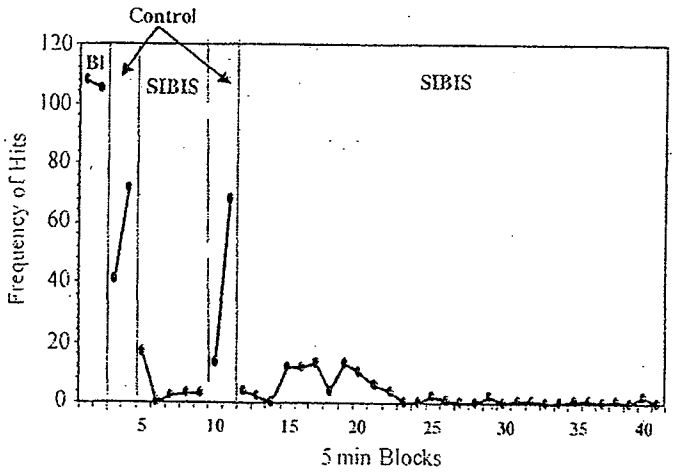

Fig. 1. Frequency of head hits per 5 min blocks during Baseline, Control and SIBIS conditions for the initial trial.

drop in rate occurred in the first 5-min block when SIBIS was activated with a subsequent reduction to near zero frequency over the next 15 min. Return to the Control condition produced an increase in rate of head hitting with reductions to near zero rates when SIBIS was again activated.

3.3. School-Based Trial

Results from the School-Based Trial are shown in Figs. 2–7. There was a dramatic and near total reduction in head hits (Fig. 2) during the afternoon of day 4 despite Wade engaging in over 200 hits that morning. When SIBIS was introduced in the morning on day 7, a similar dramatic reduction in head hits occurred. The rate of head hitting remained near 0 for the remainder of this trial. Because the rate of pinching (Fig. 3) showed a significant decrease on Baseline day 3, it is difficult to determine whether the introduction of SIBIS on day 4 in the

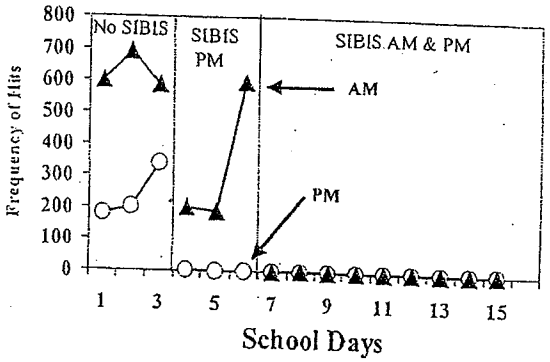

Fig. 2. Frequency of head hits per half day school session during the School-Based Trial.

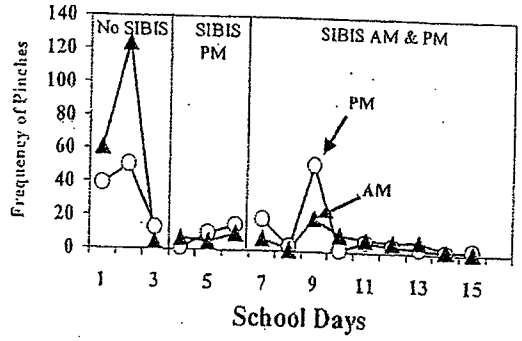

Fig. 3. Frequency of pinches per half day school session during the School-Based Trial.

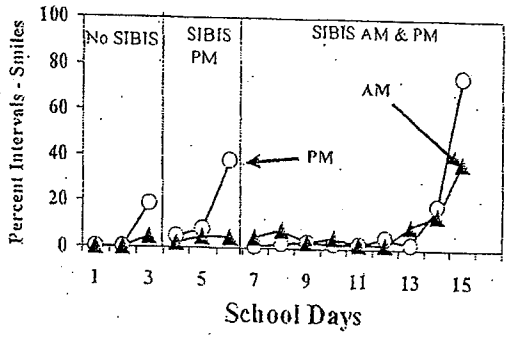

Fig. 4. Percent intervals of Smiles per half day school session during the School-Based Trial.

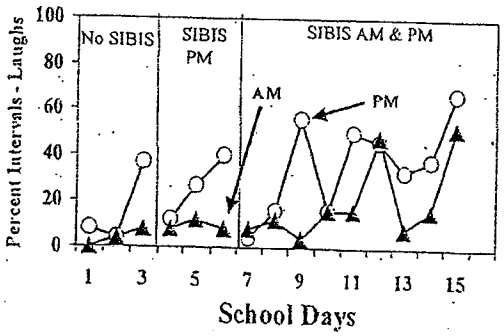

Fig. 5. Percent intervals of Laughs per half day school session during the School-Based Trial.

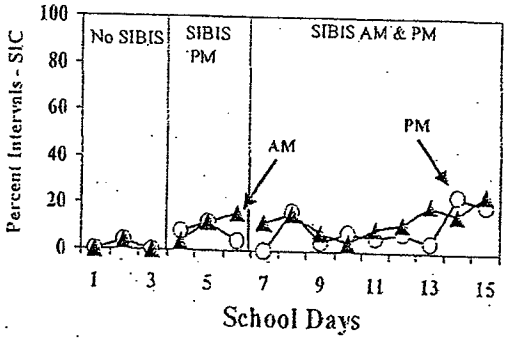

Fig. 6. Percent intervals of Self-Initiated Communication per half day school session during the School-Based Trial.

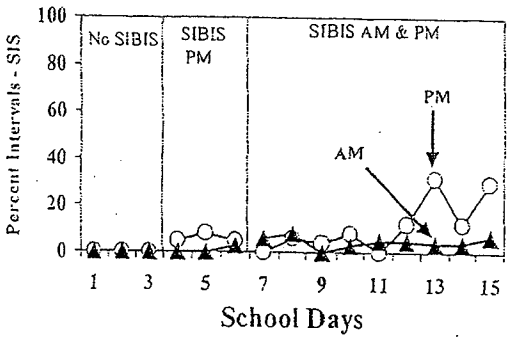

Fig. 7. Percent intervals of Self-Initiated Socialization per half day school session during the School-Based Trial.

afternoon affected the rate of pinching. There is no suggestion, however, that the introduction and continued use of SIBIS resulted in an increase in pinching. Data on Smiles (Fig. 4) and Laughs (Fig. 5) suggest that Wade was "happier" after the introduction of SIBIS as evidenced by the gradual increases in smiling and laughing across the 15 days. The data on Self-Initiated Communication (Fig. 6) and self-initiated social interactions (Fig. 7) also suggest increases in these behaviors after SIBIS treatment began. Anecdotal reports by staff support these data-based observations.

3.4. Ongoing evaluation and monitoring

Following the School-Based Trial, data were no longer collected on Smiles, Laughs, and Social, and Communicative behaviors. The frequency of head hits at home and school continued to be monitored. From May 1994 to early Fall of 1994, the rate of head hitting ranged from 0 to 4 per week, with the majority of weeks showing 0 or 1 hits. Dramatic decreases in pinching and yelling were also observed, but not documented, during this time period. Wade was totally free from physical restraints and appeared happier and more content than he had ever been according to his parents. Rates of head hitting from 1995 through 1999 are shown in Fig. 8. Note that data are presented as shocks per month and that there have been numerous months over the last 2 school years when no hits, consequently no shocks, have occurred. The rates at home have remained generally above the rates seen at school, but still remain very low.

During the summer of 1994, the decision was made to attempt to fade SIBIS. The device was removed for short periods of time during favored, low stress activities, such as Lunch. By August of 1994, Wade was able to eat his entire lunch without SIBIS or other restraint. When Wade started back to school in the Fall of 1994, the fading continued with the SIBIS removed for a 10 min period in the morning and afternoon. Attempts to include lunchtime in the fading process,

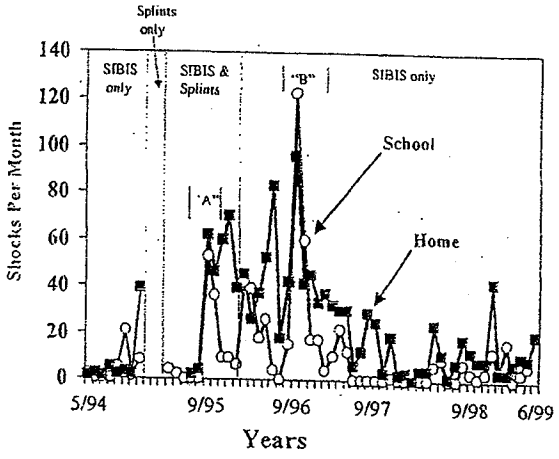

Fig. 8. Frequency of shocks hits per month from 1994 to 1999. 'A': new classroom, new teacher; 'B': behavior management specialist on maternity leave (see text).

as was done in the summer, were unsuccessful. It seemed that the stimulation in the busy school lunchroom increased Wade's anxiety and SIB increased without SIBIS.

In September of 1994, the SIBIS unit developed a mechanical problem and was returned to the manufacturer for repair. During the 2 days that Wade was without SIBIS, his SIB returned to Baseline levels and it was necessary to place him in physical restraints in prevent injury. When SIBIS was returned, Wade immediately stopped hitting without a shock being delivered. Yelling, which had been nearly constant while SIBIS was under repair, ceased as well.

During the time of the Initial Evaluation and the school-based evaluation, Wade received two 50-mg doses of Mellaril a day. In July of 1994, because he had been doing so well, it was decided to attempt a reduction in his medication. Gradual reduction in the daily dose was made between July and late November. In early November, Wade began to show signs of Tardive Dyskinesia, specifically, unusual leg and mouth movements and other tics. At this point, Wade was placed on Buspar while continuing the reduction in Mellaril. It was hoped that Buspar would control anxiety and that the symptoms of Tardive Dyskinesia would disappear.

During Christmas vacation of 1994, Wade developed a severe ear infection and his head hitting, pinching, and yelling increased dramatically. His parents called the physician who had prescribed the Buspar and was monitoring his Mellaril withdrawal, and reported his increased SIB but did not relate information about the ear infection. The physician, without the information about the severe ear infection, made the conclusion that a medication change was needed and placed Wade on Lithium. During the next 6-week period, despite his ear infection

resolving, Wade continued to show high rates of SIB and the use of SIBIS was discontinued as it failed to suppress the SIB. In February of 1995, Lithium was discontinued and Mellaril was reinstated on the advice of Wade's physician. Despite the possibilities of Tardive Dyskinesia, his physician felt that Lithium would be less effective than Mellaril. Over a several week period, the dose was raised to the prior levels and there was a corresponding improvement in Wade's affective state and in his behaviors. During this time when SIBIS was not used, Wade wore both air and rigid splints on his arms that effectively prevented him from tugging at his ears, hitting his head, and pinching his body. With the decrease in distressed behavior occurring with the reintroduction of Mellaril, SIBIS treatment was again initiated with small air splints on Wade's elbow that prevented full force blows to the head.

Wade continued to wear SIBIS and air splints during school hours for the rest of the 1994–1995 school year with good results. SIBIS was not reintroduced into the home at this time. The potential for the return of dramatically high rates of SIB noted during his ear infection and medication changes, coupled with the continued need for air splint restraints at school, suggested that close supervision by professional staff was still needed. Early in June 1995, Wade began to show resistance to having his SIBIS unit removed prior to returning home at the end of the school day. The decision was made to allow Wade to wear SIBIS during all waking hours in all environments. For the rest of the summer, Wade's daily rate of SIB remained at 0 when he was with the behavior management staff from his school, usually 3 days per week, SIB ranged from 0 to 2 per day when at home.

When Wade returned to school at the end of August 1995, he was placed in a different classroom with a different teacher and different assistants. His rate of SIB initially went up to an average of 2–3 per day, but by November 1995 had reduced to an average of .58 per day. His average rate in the home during this period was 2.25 hits per day. With the gradual reduction in SIB, attempts were made to fade the elbow air splints that Wade wore in conjunction with SIBIS. Although some progress was made in the school environment, it was not possible to fade completely the splints and he continued to wear them the majority of the day.

At the end of December 1995, the decision was made to make a "cold turkey" attempt to eliminate the use of restraints while SIBIS was being worn. Staff from Wade's school program made arrangements to pick him up during the Christmas break and give him the choice of going with them to the shopping mall, a favored activity for Wade, without air splints or remaining at home. Wade indicated he wanted to go with the staff and his splints were removed and no hits occurred during the shopping trip. When he was taken home he looked for his splints and was told that they were no longer available. No hits occurred for the rest of that day at home.

In January 1996, Wade returned to school free from restraints. His SIB rate remained at 0 at school and very low at home until mid-January when he developed an ear infection. Of the six shocks Wade received in January, all occurred on 3 days when he had a fever above 100°C. It was determined that

when ill, Wade's discomfort reduced the effectiveness of SIBIS and, therefore, it was decided to remove SIBIS and place Wade in arm restraints until the illness resolved. While Wade had six hits in 3 days at school when his temperature was above 100°C, he had no hits (shocks) on the remaining days when his temperature was below 100°C and he wore SIBIS.

In February 1996, rates of SIB increased even though Wade seemed to be in good health. He received 42 shocks at school in a 4-day period. Upon investigation, Wade's mother related that she had been skipping his morning dose of Mellaril and giving him only his evening dose of Mellaril because they were almost out of the medication. The prescription was immediately refilled and by the next school day his rate of hits returned to 0. Although unfortunate, this incident provided the opportunity to show that both SIBIS and the appropriate dose of medication were needed to suppress Wade's SIB.

An elevation in rate of SIB was noted during September and October of 1996 (see Fig. 8). Wade's behavior management specialist, who had been most involved with Wade and the SIBIS program was on maternity leave during this time. His return to school and adjustment to the absence of the behavior specialist resulted in increased rates of SIB. After this familiar person returned from leave and he became accustomed to school, his rates began to decrease and this trend continued through the 1996–1997 school year. SIB remained remarkably low throughout the 1997–1998, and 1998–1999 school years as well.

4. Discussion

This case represents another example of the effectiveness of contingent electric shock for treating chronic and life-threatening SIB. Treatment effects were rapid and near complete and have lasted for over 5 years at the time of this writing. As in previous studies (Linscheid et al., 1990, 1994), positive side effects were noted in other challenging behaviors (pinching) and in social and communicative function. Parents continue to report that Wade is happier and more content than at any other time in his life and he routinely spends time in community activities and outings. Although SIBIS has not been faded completely, the use of the sensor module has been replaced with the remote activator because his rate is so low. Because the stimulus module is worn on the leg underneath clothing, there is no visible signs that he is being treated with electric shock and no stigmatizing physical restraints to call attention to him when in public.

In the present study, no increases in other challenging behaviors occurred with the onset of treatment with electric shock or developed as the treatment progressed. On the contrary, there were a number of documented and anecdotally reported positive side effects. This report adds support to previously published reports suggesting more positive than negative side effects of treatment using contingent electric shock (Carr & Lovaas, 1983). In addition, no aggression toward others or objects in Wade's environment has been observed at any time over the past 5 years. Despite the documentation of a phenomenon of elicited

aggression in animals exposed to non-avoidable or non-escapable electric shock (cf. Azrin & Holz, 1966), Wade has not engaged in aggressive behavior towards others since the initiation of treatment with SIBIS. Linscheid and Meinhold (1990) argued against expecting elicited aggression in humans treated with contingent electric shock because the experimental conditions necessary to produce the phenomenon in animals, namely, close proximity of the target animal in a confined small area and noncontingent administration of the shock, are not operative in contingent shock treatment programs with humans.

This report and others reviewed earlier point out the many factors that need to be considered when using contingent electric shock. An individual's medical condition and resulting distress can affect the rate of SIB, as can environmental changes and administrative policies that affect the implementation of the treatment. Indeed, increases in Wade's rate of SIB are now used diagnostically to suggest that he may have a fever or be in the early stages of an ear infection. Increased rates of SIB now routinely prompt a search for medication, health, or environmental changes because it has been well established that when Wade is in his normal environment, free from fever and receiving his correct dose of medication, his rate of SIB is essentially 0.

Attempts at fading the SIBIS device off of Wade were terminated with the difficulties encountered when initially trying to reduce his dose of Mellaril back in 1994. With the various illnesses, chronic ear infections, and staff absences, no further attempts to fade have occurred. Given the adjustments made for ear infections, staff absences, and the stability of his medication regimen, low and steady rates of SIB from the 1997–1998 and 1998–1999 school years suggest that it may be time to initiate a systematic fading program. His physicians, however, feel there is more potential danger from continuation on the psychoactive medications (e.g., Tardive Dyskinesia) than from the few shocks received. They have noted no short- or long-term negative side effects from SIBIS and, therefore, they have suggested that fading of the medication should precede attempts to fade SIBIS.

As a concluding note, it is important to consider the original decision to use SIBIS in Wades' treatment. As indicated, Wade presented to a new school with incomplete records of prior behavioral interventions. Some initial attempts were made to decrease his SIB with legitimate behavioral interventions. The functional analysis conducted before the request to use SIBIS, while brief, suggested that SIB was either multiply determined or determined by a condition that was not one of the hypothesized behavioral contingencies. Derby et al. (1992) have shown that it is possible for brief assessments to yield clear results in about 50% of the cases. This suggests that brief assessments can yield credible results, especially in concert with consistent anecdotal observations by staff and parents. Results of the functional analysis, Wade's rate of SIB at the time of referral to the first author, the ongoing physical damage he was inflicting upon himself, his age, and his total inability to participate in educational activities or community outings, coupled with his parents strong support of intervention with SIBIS were all factors considered in the decision to initiate treatment. Although data to suggest the

failure of non-aversive procedures was limited in amount and quality, the long history of the problem and the difficulty the current school staff had in implementing any program due to the high rate and severity of his SIB and other problem behaviors warranted beginning SIBIS treatment that had shown to be effective almost immediately in previous studies. The decision to provide treatment for Wade was made on the above stated factors, the author's prior experience with rapid and highly successful treatment programs using SIBIS and the belief that dramatic reduction of SIB would enable Wade to benefit from educational and behavioral interventions. Wade had made no progress on any of his 1993–1994 academic year IEP goals prior to initiation of SIBIS treatment in April of 1994. He ended the academic year with 7 goals achieved, 19 with "satisfactory progress made", and only 5 goals were categorized as needing improvement or not achieved. Essentially, all of the progress on these goals occurred after SIBIS treatment began and occurred in about 6 weeks.

While the decision to use an aversive treatment must be made in consideration of numerous factors, it is suggested that the speed and degree of suppression of SIB must be among these considerations. In Wade's case, his human rights committee concurred that it was in his best interest to begin treatment with SIBIS immediately rather than to engage in a potentially long evaluation of non-aversive interventions that they felt, by history, had little chance of success.

References

Azrin, N. H., & Holz, W. C. (1966). Punishment. In W. K. Honig (Ed.), *Operant behavior: Areas of research and application* (pp. 380–447). New York: Appleton.

Carr, E. G., & Lovaas, O. I. (1983). Contingent electric shock as a treatment for severe behavior problems. In S. Axelrod & J. Apsche (Eds.), *The effects of punishment on human behavior* (pp. 221–246). New York: Academic Press.

Derby, K. M., Wacker, D. P., Sasso, G., Steege, M., Northrup, J., Cigrand, K., & Asmus, J. (1992). Brief functional assessment techniques to evaluate aberrant behavior in an outpatient setting: A summary of 79 cases. *Journal of Applied Behavior Analysis, 25*, 713–721.

Duker, P. C., & Seys, D. M. (1996). Long-term use of electrical aversion treatment with self-injurious behavior. *Research in Developmental Disabilities, 17*, 293–301.

Iwata, B. A., Dorsey, M. F., Slifer, K. J., Bauman, K. E., & Richman, G. S. (1994). Toward a functional analysis of self-injury. *Journal of Applied Behavior Analysis, 27*, 197–209. (reprinted from Analysis and Intervention in Developmental Disabilities, 2, 3–20, 1982).

Linscheid, T. R., Haertel, F., & Cooley, N. (1993). Are aversive procedures durable: A five-year follow-up of three cases treated with contingent electric shock. *Child and Adolescent Mental Health Care, 3*, 1–10.

Linscheid, T. R., Iwata, B. A., Ricketts, R. W., Williams, D. E., & Griffin, J. C. (1990). Clinical evaluation of SIBIS: The self-injurious behavior inhibiting system. *Journal of Applied Behavior Analysis, 23*, 53–78.

Linscheid, T. R., & Meinhold, P. (1990). The controversy over aversives: Basic operant research and the side effects of punishment. In A. C. Repp & N. N. Singh (Eds.), *Perspectives on the use of nonaversive and aversive interventions for persons with developmental disabilities* (pp. 435–450). Sycamore, IL: Sycamore Publishing Company.

Linscheid, T. R., Pejeau, C., Cohen, S., & Footo-Lenz, M. (1994). Positive side effects in the treatment of SIB using the Self-Injurious Behavior Inhibiting System (SIBIS): Implications for operant and biochemical explanations of SIB. *Research in Developmental Disabilities, 15*, 81–90.

National Institutes of Health. (1991). *Treatment of destructive behaviors of persons with developmental disabilities*. (NIH Publication No. 91-2410). Washington, DC: U.S. Government Printing Office.

Ricketts, R. W., Goza, R. R. A. B., & Matese, M. (1993). A 4-year follow-up of treatment of self-injury. *Journal of Behavior Therapy & Experimental Psychiatry, 24*, 57–62.

Williams, D. E., Kirkpatrick-Sanchez, S., & Crocker, W. T. (1994). A long-term follow-up of treatment for severe self-injury. *Research in Developmental Disabilities, 15*, 487–501.

EXHIBIT 7

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The relationship of self-injurious behavior and other maladaptive behaviors among individuals with severe and profound intellectual disability

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Abstract

Participants were 101 individuals with self-injurious behavior (SIB) and severe or profound intellectual disability who were matched by gender, age, and level of intellectual disability to controls. Persons with SIB were more likely to exhibit the challenging behaviors of physical aggression, property destruction, sexually inappropriate behaviors and stereotypies when compared to controls, suggestive of co-occurring behaviors. Moreover, the maladaptive behavior of irritability, as assessed by the aberrant behavior checklist (ABC) was able to correctly classify 72.8% of the sample into their respective group memberships. Implications of these findings are discussed.

Keywords: Self-injurious behavior; Intellectual disability; Aberrant Behavior Checklist

Self-injurious behavior (SIB) is a severe and chronic form of aberrant behavior that poses serious risks to persons with intellectual disabilities (Iwata, Dorsey, Slifer, Bauman, & Richman, 1982). Tate and Baroff (1966) defined SIB as a behavior(s) that produces injuries to an individual's body. SIB has resulted in physical trauma and medical complications including permanent tissue damage, bone fractures, dismemberments, and in the most severe cases, death (Yang, 2003). Moreover, SIB is frequently a life-long behavior that persists from childhood through adulthood (Schroeder, 1996). According to Rojahn (1994), the most common forms of SIB are head banging, self-biting, and self-scratching. In addition, hand-to-head SIB occurs

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frequently in persons with intellectual disabilities (Griffin, Williams, Stark, Altmeyer, & Mason, 1986). According to Thompson and Caruso (2002), SIB may occur in interrupted sessions that last for a few seconds or prolonged episodes that may last for hours. Self-injurious behavior is also problematic for direct care staff, teachers, professionals, and other family members because of negative psychosocial effects and stress (Mossman, Hastings, & Brown, 2002). Additionally, SIB depletes limited financial and staff resources within institutional or community settings.

Prevalence estimates of SIB range from 5 to 16% (Schroeder, Rojahn, & Oldenquist, 1991). Additionally, researchers have reported that prevalence rates are negatively correlated with intellectual ability (McClintock, Hall & Oliver, 2003; Rojahn & Esbensen, 2002). Thus, estimates of SIB are highest in individuals with severe and profound levels of intellectual disabilities. Self-injurious behavior is a common feature of many disorders including Tourette's syndrome, and schizophrenia (Baumeister & Frye, 1985). Researchers have suggested that SIB has a strong overlap with other types of psychopathology including depression, bipolar, and obsessive-compulsive disorder (Matson, 1986; Charlot, Doucette, & Mazzacappa 1993; Bodfish et al., 1995). Self-injury is also common in individuals with certain disabilities such as Lesch–Nyhan syndrome (Baumeister & Frye). Researchers have suggested an association between social skills deficits and self-injurious behavior (McClintock et al., 2003). Specifically, individuals with intellectual disabilities are more likely to display negative social skills and undesirable social behaviors. Additionally, SIB has been associated with physiological conditions including otitis, gastroesophageal reflux disease, menstrual periods, and sleep deprivation (Thompson & Caruso, 2002).

Behavioral interventions based on functional analysis have decreased incidents of self-injurious behavior (Pelios, Morren, Tesch, & Axelrod, 1999). Differential reinforcement of alternative behavior (DRA), response interruption and prevention, and social skills and communication training has been reported to be effective in reducing incidents of SIB (Rush & Frances, 2000). Additionally, enriched environments with empirically identified preferred stimuli decreased self-injurious behavior (Lindauer, DeLeon, & Fisher, 1999). Pharmacological treatments for SIB include the atypical antipsychotics of clozapine, olanzapine, quetiapine, and risperidone (Aman & Madrid, 1999). Anderson and Ernst (1994) reported that benzodiazepines, neuroleptics, antidepressants, chloralhydrates, and anticonvulsives are frequently used for the behavioral control of SIB. Clozapine has been reported to be effective in reducing self-injurious behavior and aggression in persons with profound mental retardation who had been unresponsive to previous pharmacological interventions (Hammock, Levine, & Schroeder, 2001). Buitelaar (1993) however recommends caution when using psychotropics to treat SIB citing both their sedating properties to decrease cognitive and physical abilities and long-term side effects.

Self-injurious behavior has typically been treated as a discrete behavior independent from other forms of challenging behaviors (Bodfish & Lewis, 2002). However, several researchers have reported an association between SIB and other maladaptive behaviors (Bihm & Poindexter, 1991; Sigafoos, Elkins, Kerr, & Attwood, 1994; Collacott, Cooper, Branford, & Mc Grother, 1998). Nottestad and Linaker (2002) in a study of individuals before and after deinstitutionalization reported that SIB was a significant predictor of aggressive challenging behavior in the community. According to Landesmann-Dwyer (1981), aggression frequently results in re-institutionalization. Maladaptive behaviors are often associated with unsuccessful community relocation (Sutter, Mayeda, Call, Yanagi, & Yee, 1980; Hemming, 1982). Consequently, the purpose of this study was to extend previous research by determining the

extent to which challenging behaviors contribute to or simply co-occur with the presence of SIB in institutionalized individuals with intellectual disabilities. The implications are important for the assessment and treatment of SIB in persons with intellectual disabilities. Additionally, the consequences are important for the continued deinstitutionalization and inclusion of persons with intellectual disabilities within the community.

1. Method

1.1. Participants

The 202 participants for this study resided at a large developmental center in central Louisiana. Participants included both male ($n = 101$) and female ($n = 101$) with ages ranging from 19 to 68-years old. Participants consisted of 41 African-Americans and 161 Caucasians diagnosed with severe ($n = 14$) or profound ($n = 188$) levels of intellectual disability. Sample age demographics are listed in Table 1.

1.2. Experimental design

Both a licensed psychologist and a board certified psychiatrist agreed upon the presence of self-injury. These people made up the experimental group. A control group comprised of individuals who did not engage in SIB, was matched as closely as possible to the experimental group on level of intellectual disability, gender, and age (within 10 years).

Data was collected on current maladaptive behaviors including tantrums, physical aggression, verbal aggression, property destruction, noncompliance, sexually inappropriate behaviors, stereotypies, eating-related behaviors (i.e., pica, rumination, meal refusal, and self-induced vomiting/gagging), compulsive behaviors, and other challenging behaviors (i.e., stealing, hand-mouthing, spitting, tactile defensiveness, head in toilet, rectal digging, and elopement). We obtained these data to assess the relationship between the presence of self-injury and other maladaptive behaviors.

In addition, Aberrant Behavior Checklist (ABC) data was collected from an interview with a direct-care staff person who had worked with the individual for a minimum of 6 months before the study. The ABC is a 58-item instrument that is used to rate inappropriate and maladaptive behaviors in persons with intellectual disability. This assessment is conducted in a third-party interview format with caregivers or persons very familiar with the individual serving as the respondent. Items are rated on a four-point Likert-type scale from (0) the behavior is not a problem to (3) the problem is severe in degree. The ABC consists of five subscales (a) irritability, (b) lethargy, (c) stereotypy, (d) hyperactivity, and (e) inappropriate speech. The internal consistency of the ABC is good to excellent and the test–retest reliability is excellent (Aman & Singh, 1986).

Table 1
Mean and standard deviation of age demographics in sample ($n = 202$)

Group	N	Mean	S.D.	F	p-Value
Age					
Self-injury	101	45.57	11.70	.04	.97
Control	101	45.64	11.71		

2. Results

A Chi-Square was conducted across groups (self-injury, control) and the previously mentioned challenging behaviors. A significant association was noted between those individuals who engaged in self-injury and the presence of other maladaptive behaviors, $\chi^2(1) = 21.70$, $p < .001$. Subsequently, other chi-square procedures were conducted with those challenging behaviors represented in the sample (i.e., tantrums, physical aggression, verbal aggression, property destruction, noncompliance, sexually inappropriate behaviors, stereotypies, eating-

Table 2
Chi-square coefficients of maladaptive behaviors and self injurious behavior ($n = 202$)

Group	Present	Absent	n	X^2 value	d.f.	p-Value
Maladaptive behavior						
Self-injury	71	30	101	21.70	1	.000*
Control	38	63	101			
Tantrums						
Self-injury	26	75	101	3.70	1	.054
Control	15	86	101			
Physical aggression						
Self-injury	30	71	101	5.52	1	.019*
Control	16	85	101			
Verbal aggression						
Self-injury	16	85	101	3.03	1	.082
Control	8	93	101			
Property destruction						
Self-injury	10	91	101	5.67	1	.017*
Control	2	99	101			
Noncompliance						
Self-injury	4	97	101	.87	1	.352
Control	7	94	101			
Sexually inappropriate[a]						
Self-injury	8	93	101	6.38	1	.012*
Control	0	101	101			
Stereotypies						
Self-injury	19	82	101	11.04	1	.001*
Control	4	97	101			
Eating-related						
Self-injury	10	91	101	.24	1	.621
Control	8	93	101			
Compulsive[a]						
Self-injury	3	98	101	1.35	1	.245
Control	0	101	101			
Other						
Self-injury	22	79	101	2.80	1	.094
Control	13	88	101			

[a] Yates Continuity Correction was used because the expected frequencies were below 5.
* Significant results.

Table 3
Stepwise discriminant function analysis

Step entered	Variable	Wilks' lambda	p-Value	Standardized canonical discriminant function coefficient
1	Irritability	.80	.000	.45

related behaviors, compulsive behaviors, and other maladaptive behaviors) to assess associations of specific maladaptive behaviors with SIB. The Yates Continuity Correlation was used for those chi-square tests that the expected frequency count was less than 5 (i.e., sexually inappropriate behavior and compulsive behaviors). The analyses indicated that physical aggression $\chi^2(1) = 5.52$, $p < .020$, property destruction, $\chi^2(1) = 5.67$, $p < .018$, sexually inappropriate behaviors, $\chi^2(1) = 6.38$, $p < .013$, and stereotypies, $\chi^2(1) = 11.04$, $p < .002$ were significantly associated with SIB. Chi-Square statistics are listed in Table 2.

Based on these results, a discriminate function analysis using Wilks' Lambda criterion was conducted with the five subscales of the ABC (Irritability, Lethargy, Stereotypy, Hyperactivity, and Inappropriate Speech). The Wilks' Lambda procedure was used to determine what maladaptive behaviors were good predictors of SIB in persons with severe or profound levels of intellectual disability. This procedure sequentially selects variables until the addition of the next most important variable fails to add significantly to the discriminating power of the model (Grant, 1989), which was engaging in self-injury or not. The one variable entered into the model was the items comprising the irritability subscales. Subsequently, the function was significant at the $p < .0001$ level with an eigenvalue of .26. This model correctly enabled 72.8% of the cases to be correctly classified into either the "self- injury" group (62.4%) or the "control" group (83.2%). The stepwise discriminant function analysis is shown in Table 3.

3. Discussion

Self-injurious behavior is a challenging behavior for parents, professionals, and direct care staff. Within institutional and community settings SIB uses limited financial and staff resources including protective equipment and one-on-one staffing. Researchers have reported an association between SIB and other maladaptive behaviors (Bihm & Poindexter, 1991; Sigafoos et al., 1994; Collacott et al., 1998). A significant association was found between self-injurious behavior and maladaptive behaviors. In addition, a significant relationship was found between SIB and physical aggression, property destruction, stereotypies and sexually inappropriate behavior. Several researchers have reported an association between SIB and aggression in persons with intellectual disabilities (Duker, van Druenen, Jol, & Oud, 1986; Schroeder, 1991). Sigafoos et al. (1994) in a study of 261 persons with intellectual disabilities and physical aggression reported that 34% of their sample engaged in SIB. Common characteristics included severe and profound intellectual disabilities, communication deficits, psychotropic medications, and varying topographies. An association was noted between SIB and physical aggression, similar to Sigafoos et al. (1994).

Researchers have suggested a relationship between SIB and stereotypies in persons with intellectual disabilities (Schroeder, Rojahn, Mulick, & Schroeder, 1990). In a study of 429 individuals with SIB, researchers found increased frequencies of symptoms of stereotypies including exhibits a period of sudden motor or vocal activity and engages in repetitive body

movements (Matson, Hamilton, et al., 1997). An association was observed between SIB and stereotypies, similar to Matson, Hamilton, et al. Moreover, the results of this investigation indicate a relationship between SIB and sexually inappropriate behavior including masturbating in public, striping off clothing, and exposing oneself in public. Matson, Hamilton, et al. in their initial study found that individuals exhibiting SIB were more likely to present with symptoms of sexual disorders. Further research is warranted to investigate this suggestive relationship between sexually inappropriate behaviors and SIB.

Irritability may be predictive of SIB in individuals with severe and profound intellectual disabilities. These findings indicate that the above-mentioned individuals should be routinely screened for maladaptive behaviors using a checklist such as the ABC. Individuals with elevations on the Irritability subscale should be additionally assessed for SIB. Items on the Irritability subscale associated with SIB include injures self on purpose, deliberately hurts himself or herself, and does physical violence to self. Again further research is warranted to investigate the association between Irritability and SIB.

An unexpected result of the present investigation was the relationship between SIB and property destruction. Researchers have not systematically investigated the relationship between SIB and property destruction. We did not find investigations examining the co-occurrence of SIB and property destruction. Future researchers should target this area for study based upon its co-occurrence with SIB. The implications of this data for potential etiology and treatment considerations appears to be considerable and warrants further consideration.

Previously, SIB has been treated as a discrete behavior independent from other challenging behaviors (Bodfish & Lewis, 2002). However, the results of this study suggest that clinicians should consider broader based assessments and treatments targeting not only SIB but also other co-occurring maladaptive behaviors. This study and previous researchers suggest that SIB is a complex disorder involving co-occurring behaviors (Matson, Kiely, & Bamburg, 1997). The results of this study using a chi-square analysis suggest that SIB is associated with the maladaptive behaviors of physical aggression, property destruction, and sexually inappropriate behavior.

References

Aman, M. G., & Madrid, A. (1999). Atypical antipsychotics in persons with developmental disabilities. *Mental Retardation and Developmental Research Reviews, 5*, 251–260.

Aman, M. G., & Singh, N. (1986). *Aberant behavior checklist manual*. East Aurora, NY: Slosson Educational Publications Inc.

Anderson, L. T., & Ernst, M. (1994). Self-injury in Lesch–Nyhan disease. *Journal of Autism and Developmental Disorders, 24*, 67–81.

Baumeister, A. A., & Frye, G. D. (1985). The biochemical basis of the behavioral disorder in the Lesch–Nyhan Syndrome. *Neuroscience and Biobehavioral Reviews, 9*, 169–178.

Bihm, E., & Poindexter, A. R. (1991). Cross-validation of the factor structure of the aberrant behavior checklist for persons with mental retardation. *American Journal of Mental Retardation, 96*, 209–211.

Bodfish, J. W., Crawford, T. W., Powell, S. B., Parker, D. E., Golden, R. N., & Lewis, M. H. (1995). Compulsions in adults with mental retardation: Prevalence, phenomenology, and comorbidity with stereotypy and self-injury. *American Journal on Mental Retardation, 100*, 183–192.

Bodfish, J. W., & Lewis, M. H. (2002). Epidemiology of self-injurious behavior in mental retardation: A review. In S. R. Schroeder, M. L. Oster-Granite, & T. Thompson (Eds.), *Self-injurious behavior: Gene–brain–behavior relationships* (pp. 23–39). Washington, D.C. American Psychological Association.

Buitelaar, J. K. (1993). Self-injurious behavior in retarded children. Clinical phenomena and biological mechanisms. *Acta Paedopsyciatricia, 56*, 105–111.

Charlot, L. R., Doucette, A. D., & Mazzacappa, E. (1993). Affective symptoms of institutionalized adults with mental retardation. *American Journal on Mental Retardation, 98*, 408–416.

Collacott, R. A., Cooper, S. A., Branford, D., & McGrother, C. (1998). Epidemiology of self-injurious behavior in adults with learning disabilities. *British Journal of Psychiatry, 173*, 428–432.

Duker, P. C., van Druenen, C., Jol, K., & Oud, H. (1986). Determinants of maladaptive behavior of institutionalized mentally retarded individuals. *American Journal of Mental Deficiency, 91*, 51–56.

Grant, G. (1989). Letting go: Decision making among family carers of people with a mental handicap. *Australia and New Zealoand Journal of Developmental Disabilities, 15*, 189–200.

Griffin, J. C., Williams, D. E., Stark, M. T., Altmeyer, B. K., & Mason, M. (1986). Self-injurious behavior: A state-wide prevalence study of the extent and circumstances. *Applied Research in Mental Retardation, 7*, 105–116.

Hammock, R., Levine, W. R., & Schroeder, S. R. (2001). Brief report: Effects of clozapine on self-injurious behavior of two risperidone nonresponders with mental retardation. *Journal of Autism and Developmental Disabilities, 31*, 109–113.

Hemming, H. (1982). Mentally handicapped adults returned to large institutions after transfer to new small units. *British Journal of Mental Subnormality, 28*, 13–18.

Iwata, B. A., Dorsey, M. F., Slifer, K. J., Bauman, K. E., & Richman, G. S. (1982). Toward a functional analysis of self-injury. *Analysis and Intervention in Developmental Disabilities, 2*, 3–20.

Landesmann-Dwyer, S. (1981). Living in the community. *American Journal of Mental Deficiency, 86*, 223–234.

Lindauer, S. E., DeLeon, I. G., & Fisher, W. W. (1999). Decreasing signs of negative affect and correlated self-injury in an individual with mental retardation and mood disturbances. *Journal of Applied Behavior Analysis, 32*, 103–106.

Matson, J. L. (1986). Self-injury and its relationship to diagnostic schemes in psychopathology. *Applied Research in Mental Retardation, 7*, 223–227.

Matson, J. L., Hamilton, M., Duncan, D., Bamburg, J., Smiroldo, B., Anderson, S., et al. (1997a). Characteristics of Stereotypic movement disorder and self-injurious behavior assessed with the diagnostic assessment for the severely handicapped (DASH-II). *Research in Developmental Disabilities, 18*, 457–469.

Matson, J. L., Kiely, S., & Bamburg, J. (1997b). The effect of stereotypies on adaptive skills as assessed with the DASH-II and Vineland adaptive behavior scales. *Research in Developmental Disabilities, 18*, 471–476.

McClintock, K., Hall, S., & Oiiver, C. (2003). Risk markers associated with challenging behaviors in people with intellectual disabilities: A meta-analytic study. *Journal of Intellectual Disability Research, 47*, 405–416.

Mossman, D. A., Hastings, R. P., & Brown, T. (2002). Mediator's responses to self-injurious behavior: An experimental study. *American Journal on Mental Retardation, 107*, 252–260.

Nottestad, J. Aa. , & Linaker, O. M. (2002). Predictors for attacks on people after deinstitutionalization. *Journal of Intellectual Disability Research, 46*, 493–502.

Pelios, L., Morren, J., Tesch, D., & Axelrod, S. (1999). The impact of functional analysis methodology on treatment choice for self-injurious and aggressive behavior. *Journal of Applied Behavior Analysis, 32*, 185–195.

Rojahn, J. (1994). Epidemiology and topographic taxonomy in self-injurious behavior. In T. Thompson & D. B. Gray (Eds.), *Destructive behavior in developmental disabilities: Diagnosis and treatment* (pp. 49–67). Thousand Oaks, CA: Sage Publications.

Rojahn, J., & Esbensen, A. J. (2002). Epidemiology of self-injurious behavior in mental retardation: A review. In S. R. Schroeder, M. L. Oster-Granite, & T. Thompson (Eds.), *Self-injurious behavior: Gene–brain–behavior relationships* (pp. 41–77). Washington, D.C. American Psychological Association.

Rush, J., & Frances, A. (2000). Treatment of psychiatric and behavioral problems in mental retardation. *American Journal on Mental Retardation, 3*, 159–228.

Schroeder, S. R. (1991). Self-injury and stereotypy. In J. L. Matson & J. A. Mulick (Eds.), *Handbook of mental retardation* (pp. 392–396). Oxford: Pergamon Press.

Schroeder, S. R. (1996). Dopaminergic mechanisms in self-injury. *Psychology in Mental Retardation and Developmental Disabilities, 22*, 10–13.

Schroeder, S. R., Rohahn, J., Mulick, J. A., & Schroeder, C. S. (1990). Self-injurious behavior: An analysis of behavior management techniques. In J. L. Matson & J. R. McCartney (Eds.), *Handbook of behavior modification* (2nd ed., pp. 141–180). New York: Plenum Press.

Schroeder, S. R., Rojahn, J., & Oldenquist, A. (1991). Treatment of destructive behaviors among people with mental retardation and developmental disabilities: Overview of the problem. In *Treatment of destructive behaviors in persons with developmental disabilities* (NIH Publication No. 91-2410, pp. 173–230). Washington, DC: US Department of Health and Human Services.

Sigafoos, J., Elkins, J., Kerr, M., & Attwood, T. (1994). A survey of aggressive behavior among a population of persons with intellectual disability in Queensland. *Journal of Intellectual Disability Research, 38*, 369–381.

Sutter, P., Mayeda, T., Call, T., Yanagi, G., & Yee, S. (1980). Comparison of successful and unsuccessful community-placed mentally retarded persons. *American Journal of Mental Deficiency, 85*, 262–267.

Tate, B. G., & Baroff, G. S. (1966). Aversive control of self-injurious behavior in a psychotic boy. *Behaviour Research and Therapy, 4*, 281–287.

Thompson, T., & Caruso, M. (2002). Epidemiology of self-injurious behavior in mental retardation: A review. In S. R. Schroeder, M. L. Oster-Granite, & T. Thompson (Eds.), *Self-injurious behavior: Gene–brain–behavior relationships* (pp. 41–77). Washington, D.C. American Psychological Association.

Yang, L. J. (2003). Combination of extinction and protective measures in the treatment of severely self-injurious behavior. *Behavioral Interventions, 18*, 109–121.

EXHIBIT 8

23

Positive Behavior Support: A Paternalistic Utopian Delusion

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> The credo of liberal science imposes upon us two moral obligations: to allow everybody to err and criticize, even obnoxiously, and to submit everybody's beliefs—including our own—to public checking before claiming that they deserve to be accepted as knowledge. Today, activists and moralists are assailing both halves of the creed. They are assailing the right to err and criticize, when the error seems outrageous or the criticism seems hurtful; they are assailing the requirements for public checking, when the result is to reject someone's belief. They have a right to pursue their attack (nonviolently), but they, and we, should understand that they are enemies of science itself, and even ultimately, of freedom of thought. And those of us who hold sacred the right to err and the duty to check need to understand that our defense of liberal science must preach not only toleration but discipline: the hard self-discipline which requires us to live with offense.
>
> —Rauch (1993, p. 154)

Positive behavior support (PBS) has been presented to the education and disability services sectors as a new science of behavior. It is sold as a science that has special relevance to solving behavior problems encountered in school and community settings. This is not a trivial claim. In this chapter, we take a critical look at this claim, examine its emergence in developmental disability and education circles, and assess what PBS may mean for people with disabilities, the people who care for and about them, and for serious students of psychology and education.

Our general thesis has two parts. The first part is that whatever else it may be, PBS is not science, but rather a form of illusion that leads to dangerously biased decision making. This leads us to examine the basis of what a science of behavior, or of education or of anything else, must be in order to be called a science. The second part of our analysis shows that PBS is not new, if by new, it refers to either the synthesis of values with a technology or the content adherents claim it encompasses. In establishing these points we are led, and hope to lead the reader along with us, to an ines-

capable conclusion about PBS; namely, that it represents little more than propaganda designed to promote the professional interests of a group of social and educational reformers. Further, what little benefit in education or community service settings PBS practitioners might be able to provide is more than offset by the cost to them and their students of distorting the reality of the very behavioral processes they seek to alter and use to benefit people with disabilities.

For our purposes, we must take some statement of what PBS is supposed to be as a starting point. A recent paper by Carr et al. (2002) serves nicely; it is titled, "Positive Behavior Support: Evolution of an Applied Science." Surely, the content and description of any field evolves over time, and most of these authors have been involved in what may be considered the social movement behind PBS since its earliest beginnings. The paper asserts that PBS is a *new applied science* that is based on three important sources: applied behavior analysis, the normalization movement in human services, and person-centered values. The first of these is arguably an applied science, whereas the other two are ideologies or value systems. The concept of ideology traces its roots to Marxist political philosophy, and refers to the social influences that both generate and sustain the ways in which people come to understand their world and to shape their social agenda (Belkin, 1998). Values refer to the things people actively pursue, both for themselves and for others whom they wish to influence. Thus, the novelty of PBS is in the combination of science and value systems. In other words, it is a value-based applied science. This gives us a starting point.

SCIENCE AND VALUES

Like oil and water, science and values are impossible to mix completely. You get a layered combination that may swirl around feverishly when agitated, or entwine and flow with convection when heated, but which ultimately separates as soon as removed from forced association. A lava lamp works on the latter of these two models, but lava lamps rightly are regarded as cheap curiosities that give poor illumination at best. Likewise, science is a system with rules which make it work and work well, but which conflict with some ideologies and cultural systems that serve other ends than those for which science evolved to achieve; that is, of finding the truth.

Jonathan Rauch (1993), who was quoted at the opening of this chapter, looks on science as a great and recent cultural invention. The morality he refers to is centered on the material and civil progress he thinks science has made possible since it was more or less invented and adopted as an important cultural practice a few short centuries ago. He sees the preservation of the practice of science as a moral obligation in modern society. He does not seek to derive morality from science, a mistake that others have made in the 20th century to the detriment of millions.

Social Darwinism was such a mistake. In its incarnation as the eugenics movement, which sought to improve the human race through the elimination of *people* who displayed undesirable characteristics, it was briefly influential in American political and legal thought (Mulick & Antonak, 1992). The mentally and physically disabled, the dishonest, and even the immoral were to be discouraged from having children (Weiss, 1987). The horror of this negative eugenic thinking was finally and widely perceived in the revelations that followed the defeat of Fas-

cism in Europe in World War II. In the name of race hygiene, "people worthless to live" had been killed in the Nazi-dominated countries, beginning with people with mental and physical disabilities, moving on to homosexuals, and finally focusing on those from specific ethnic backgrounds, including Gypsies and Jews (Friedlander, 1995).

The idea of the struggle for existence and the survival of the fittest had been offered as a *scientific value system*. It was based on the belief that superiority was its own justification, and that social good was achieved by the triumph of superiority over inferiority by any means. Of course, this was a deep misunderstanding of both natural selection and its relevance to social ideology. The real lesson of natural selection is that the variability within populations provides the opportunity for successful reproduction, and for the unbroken continuity of life via natural selection, under ever-changing environmental conditions. Thus, if anything, a moral system derived from Darwinian thought would encourage diversity as preparation for possible unanticipated environmental change!

But any proposal for a scientific value system, or for a value-based science, is bound to lead at the very least to scientific error and likely to political failure too. This is the lesson of the fall of the Soviet system, which based its instrumentality on the presumed scientific Marxist–Leninist "truth" that the progressive power of the state should (and could) shape the individual into the "New Soviet Man." The resulting chimera, after a 70-year gestation (and untold human suffering and economic failure), died without issue in the vast Russian cultural and ethnic landscape. It could hardly have been otherwise.

Science is the systematic search for true relations in nature, in the material universe. One knows that one is closer to scientific truth when people who perform roughly the same actions get roughly the same results. It is method, neither good nor bad; neither positive nor negative. While the scientific method's rules are neither good nor bad in themselves, and they do represent a cultural system of sorts among those who practice science, they are first and foremost completely pragmatic, emphasizing simplicity, generality, honesty, completeness, and openness. Finally, they demand a willingness, as Rauch (1993) pointed out, to check everything and to be checked by others. This emphasis on letting no assertion of fact go unchecked is the essence of the *success* of this approach in achieving progress in understanding and controlling the material processes we find in nature. It permits no dogma to persist for long that contravenes physical reality, no authority to completely quiet criticism. Absolutely no appeal to faith or authority or custom has a place in scientific checking. In fact, proclaiming one's authority concerning the revelation of truth about some issue is the surest way of all to get other scientists to try to disprove the same thing. Science only thrives in a broader culture of openness (hence, Rauch's "liberal science"). This is because unless propositions are put before the relevant audience for critical evaluation, for disproof, error can accumulate as undisclosed, and self-serving distortions lead to further distortions and cause accepted ideas to depart more and more from reality.

Unavoidable Bias

There are even two major subdivisions in science and in the kinds of truth for which scientists seek: (a) the truth about the structure of a thing and (b) the truth

about the function of a thing. True structures are mainly, but not exclusively, investigated by ever more sophisticated means of imaging, dissecting, and magnifying. True functions are investigated by ever more sophisticated means of correlating changes among events, and of isolating things in order to systematically vary the isolated parts of complex systems to determine their causal role in those systems. B. F. Skinner (1954, 1963) strongly advocated for an emphasis on the functional analytic method as the most appropriate approach for the study of behavior, emphasizing the lawful way behavior changed as a function of changes in the external environment.

Structural and functional truths about natural phenomena and natural objects are often strongly related, but not always or necessarily directly. For example, there is evidence that the human brain is specialized to perceive the human face (de Haan, Humphreys, & Johnson, 2002). This specialization to orient to the human face provides the assurance of much practice in differentiating among faces, some of whom will be more individually important than others. Preference to look at faces also provides for attention to the expressive vehicle of most human communication (i.e., the eyes and mouth). Further, the structure of the human visual system provides most people with the capacity to respond to, say, the color red. Knowledge of the visual sensory system alone will not, however, inform us in the least about the likelihood of approach or withdrawal with respect to a red object, or whether a red object will be highly valued, or whether it will be recalled later. Nevertheless, a potential functional relation, like consistent selection of a particular preferred fruit (or a color), will not be possible for an individual who cannot physically distinguish among fruits by using some physical characteristic. Physiological structure sets important limits on possible functional relations. Thus, if the way to tell the difference between a poisonous fruit and a similar looking delicious safe fruit without tasting it is *only* on the basis of one fruit's reflectance of infrared light, a physically unequipped but hungry human will be completely out of luck. Humans can't see in this portion of the spectrum. The honeybee, in contrast, can see in the infrared portion of the light spectrum, and could unerringly discriminate these fruits. Evolutionary biologists speculate that many flowering plants evolved pigments that reflect light in the infrared spectrum precisely because bees and other appropriately equipped animals assist them with pollination, an interesting and common interspecies complex of functional relations. Organisms evolve to be able to work with aspects of nature that contribute to their survival and reproduction, remaining quite blind to other aspects of nature.

Humans are blind not only with respect to what they are unable to detect, but also as a result of what they are particularly equipped to detect. Human detection of some aspects of the physical environment is so keen that it can mask reality. Psychologists have studied these *perceptual biases* extensively. Visual illusions are an easily demonstrated type of perceptual bias that leads to perceiving something that isn't there. The Muller–Lyer illusion can be demonstrated with a pencil and paper (or put *Muller–Lyer illusion* into an Internet search engine to see many versions of this visual illusion). Draw two exactly equal 4-inch parallel lines, one about 1.5 inches exactly above the other. Add to the top line inward pointing arrows, like this: > and this <. To the bottom line, add outward pointing arrows, like this: < and this >. The lines will appear to be of different lengths, the one with outward pointing arrowheads seemingly shorter. The next time you open your

Internet browser, perform a search on these words: Poggendorf illusion, Titchner illusion, Herring illusion, and the Zollner illusion. All are illusions of size or orientation that trick the eye into seeing falsely. There are many other sorts of visual illusion, some evoking motion where there is none, some color shifts or afterimages, some solidity or transparency or depth (just type *illusion* into your search engine and explore the fantastic variety available on the Internet, but one of our favorites is http://www.grand-illusions.com/), and others even inducing failure to notice real changes that happen right before the observer's eyes (see Simons, 2003) Movies, which are really frequently substituted still frames, fuse into an illusion of motion because of the high speed with which each frame is flashed on the screen, a rate higher than the so-called critical flicker fusion frequency.

Perceptual biases can shift with a person's state of health. For example, people with cirrhosis of the liver due to alcoholism or hepatitis eventually show brain damage because the toxins that accumulate in the blood are not efficiently removed by the liver. Damage to the brain may alter its function, independent of age, time of day, and training experience. Ordinarily, extensive neuropsychological tests are required to detect the onset of cognitive impairment. Kircheis, Wettstein, Timmermann, Schnitzler, and Haussinger (2002) showed that the early stages of this brain damage can be detected reliably before they are otherwise apparent in a person's everyday function by changes in the critical flicker fusion threshold, or the flash rate required to achieve apparent constant illumination (i.e., a solid image). Healthy subjects required a higher flicker rate to perceive a constant light that was really turning on and off rapidly than did cirrotic patients. The flicker rate required for apparent fusion tended to decrease with increasing cognitive impairment.

We are structured by inheritance, health, and also by our experiences to *see* important aspects of the environment, and to ignore other aspects, even if under other conditions we might have the capacity to see and respond to the same stimuli. One example of this can be seen in studies of the effects of work load on perception. Researchers have shown that as the amount of effort to perform a task increases a person's sense of time passing becomes more inaccurate and variable (Brown & Boltz, 2002). Workload affects the details of what is both seen and what is later remembered. Another particularly interesting phenomenon is that of recalling things that never actually happened; false memories. False memory can be induced by suggestion and leading questions, which makes the style of interrogation so very important in questioning eyewitnesses. But a person's own prior experience can concoct very false recollections of even recent events. A simple experiment by Roediger and McDermott (1995) demonstrated this phenomenon. First, they had subjects memorize a list of common words (e.g., *bed, rest, awake*). The list was made up of words commonly associated with a single word that was not actually in the list (e.g., *sleep*). Subjects later reported about 40% of the time with high confidence that the list had included the absent but often associated word. People remembered not only the words they had studied, but also the words they associated with these words but never actually saw. Their memories were fooled by their own prior but unrelated learning of relations among words.

Finally, the phenomenon of experimenter bias or *expectancy effects* must be emphasized. Experimenter beliefs, expectations, and the resulting subtle differences in behavior with respect to the objects (or people) studied can distort findings and make things turn out the way the experimenter expects them to turnout (Rosenthal,

1976). Some of these effects can be minimized by strict adherence to procedural guidelines and even scripts for experimenter behavior, and by making sure when possible that experimenters are not informed about whether subjects or observations are from a treatment or a control condition when they work with them. Nevertheless, in nonlaboratory settings, such as classrooms and clinics, or in private homes and during advocacy meetings, expectancy effects can warp reality sharply.

Sugar Coatings Make You Feel Nice

The foregoing is similar to the placebo effect, in which the subject or patient in a therapy experiment is led to believe that a similar appearing but inert treatment is actually the *active* treatment. To the extent that patients report improvement or are observed to improve when they are given a placebo treatment instead of the active treatment, they exhibit a placebo effect. Placebo effects are real and often large. The impact or size of the "real" treatment's effects are usually understood as the extent to which they exceed the placebo effect; and the placebo effect is judged on the basis of how greatly its effect exceeds a no-treatment control condition (Bowers & Clum, 1988).

In one well-designed study of a treatment for autism known as auditory integration training (AIT), Mudford et al. (2000) evaluated AIT in a crossover design procedure in which all children experienced AIT and a sham or placebo condition. Children with autism were assigned at random to one of two groups to which AIT was administered either before the sham procedure or afterward, and parent and teacher raters and research assistants collecting the data were uninformed (i.e., double blind conditions) about which treatment the children were receiving at any particular time as a control for expectancy effects. AIT was administered using procedures taught to the researchers by one of the Directors of the Society of Auditory Intervention Techniques and the special AIT machine used met the Society's standards for such devices. In AIT, the person with autism listens to specially filtered sounds through headphones. In this experiment, this was done during the AIT condition, but during the placebo condition the identical music, now unfiltered, was piped in through speakers in the room and nothing was played through the headphones the children wore. Mudford et al. (2000) found that the children did better on parent-report and teacher rating measures of behavior following the placebo condition! In school, behavior observation detected only a trend for children to put their hands over their ears more during the AIT treatment condition. Interestingly, promoters of AIT, Rimland and Edelson (1995) reported exactly opposite results, but their study was on children whose parents had paid $1,000 plus hotel and travel expenses for the 10 days the treatment required, and no one had been blind to the treatment condition. The degree of commitment alone by parents who bore such expenses would tend to bias them to see improvement in their children, to say nothing of their hopes and desires and their trust in Rimland and Edelson.

There are a variety of nonspecific effects of "doing something good for others" on the outcomes of medical and behavioral treatments. These can be recognized operating in the Rimland and Edelson report, important factors including social pressure, such as others knowing and asserting the treatment is supposed to work; overt suggestion with instructions as forceful as those used in hypnotic induction; and re-

spected social characteristics of the person administering the treatment (Zane, 1989). The size of nonspecific effects of medical interventions on real illnesses can be substantial. Roberts, Kewman, Mercier, and Hovell (1993) reported a study that yielded findings nothing short of sobering. Five medical and surgical treatments were examined, each of which had been performed on many people and written up in medical journals. Clinicians had concluded that all five treatments were efficacious, but the studies demonstrating this had lacked controls for nonspecific effects of merely doing something. All five treatments were later shown not to work in controlled experiments, using such control procedures as random assignment of eligible patients to treatment and sham treatment groups, and keeping the subjects and the people who assessed them unaware of which treatment condition had been administered (double blind control procedures). Nevertheless, despite the demonstrated uselessness of these medical and surgical treatments, when both the patient and physician believed they would work, they did seem to work. The uncontrolled studies had reported glowing outcomes in about 40% of patients, good outcomes in about 30%, and poor outcomes in about 30%. Not bad for just faith and trust.

Beliefs can affect the perceptions of both experimenters and subjects, professionals, and patients, to the extent that they falsely attribute cause and effect. People see the things they look for and miss what they are not looking for. Stage magicians and psychics rely on our susceptibility to be led astray in order to entertain us. Bogus faith healers and quacks similarly rely on props, misdirection, and our own commitments and beliefs to make people feel better long enough to generate gratitude, loyalty and contributions, or payment. More importantly, sincere healers and their followers can be led astray in the same way unless they take effective steps to control perceptual biases. In the end, humans are prepared by their physical structure and their experience to perceive patterns in the world that are consistent with their own needs and desires. The scientific method has evolved procedures to mitigate the perceptual biases to which all of us are otherwise susceptible.

A sort of obverse effect may be operating among people who are attracted to PBS. PBS is about being *positive*. Positive is by connotation pleasing, especially when juxtaposed against fear-inspiring aversive behavioral intervention, which is a strategy PBS advocates have been following for many years (Brown, 1990; Guess, Helmstetter, Turnbull, & Knowlton, 1987). We have already seen how common word associations can create false memories; here is a straightforward example of false impressions created by common word associations. What ever could be bad about doing something *positive*? What good could ever come from something felt as bad?

Finding the Source

PBS authorities are very clear about the origin of their "science" in applied behavior analysis. Citing the early statement by Baer, Wolf, and Risley (1968), PBS leaders Carr et al. (2002) say PBS owes the basic concepts of how to understand, measure, and change behavior to the many researchers who have conducted applied behavior analysis research in past decades. We all owe those things to the database amassed by applied behavior analysts over the years. But there is more to it. Applied behavior analysts in turn owe those methods and concepts to earlier (as well as contemporary) researchers who labored under the rubric of the Experimental Analysis of Behavior (Skinner, 1963) and those who worked over the past century or

more in the broader tradition of the experimental psychology of learning and conditioning (Kimble, 1967). It is customary—no, obligatory as an aid to *checking*—to cite the original source of a scientific finding or procedure in subsequent scientific writing so that the reader can follow the evolution of a finding or theory.

This raises the issue of the consistent style of self-citation characteristic of PBS authors who publish extended replications of earlier work that has a long tradition in research done in the applied behavior analysis tradition. Sometimes they fail to point out how well trod their research paths have been before they found them. Scientific writing is supposed to avoid pointless replication of well-established findings, but extended replication in which methods are applied to new problems or in new settings or represent systematic variation of procedural elements is legitimate. Extended replication with some new element or twist supports the generality of a proposed relation between behavior and environment. PBS, however, has tended to enhance the appearance of its own originality by neglecting to recognize earlier work along the same lines. PBS authors attempt to erect the illusion that their writings are original even when they are as old as the field of applied behavior analysis itself.

Nonmembers of this in-group might generously regard this as mere cliquishness and self-promotion. The group has a history, however, which seems to involve rewriting history. Isn't this just a form of telling lies? PBSers have developed a unique jargon by which initiates can easily recognize work by those with allied philosophical and ideological commitments. Thus, PBS authors do not tend to write about behavior patterns that have scientific or practical interest, such as self-injurious behavior or phobic reactions or aggression; instead, they write about "challenging behavior." They do not write about "behavioral suppression" through "extinction and alternative response training" (even when they use it) or admit that a complex series of actions taken by teachers or therapists contains elements that produce aversive motivation in the students whose behavior changes—when in fact it does (Mulick & Linscheid, 1988). Nothing endorsed or done by PBSers is allowed to involve any aversive motivation. They write instead about "student support" and euphemistically refer to "a continuum of procedures for discouraging displays of rule-violating behavior." For at least 15 years, some of us have pointed out at every opportunity that this word-substitution game can only be meant to mislead students and consumers.

Students who use library or Internet search tools use key words and author names to find research studies related to their topic of interest. When they use PBS euphemisms as key words or PBS authors' names as search terms, they get neatly isolated writings that omit pre-PBS articles or relevant articles written by people who remain committed to scientific writing conventions and refuse to use euphemism to describe what they do. Thus, students and consumers are deprived by this insidious strategy from ever contacting literature that is not consistent with the PBS party line. Vladimir Illich Lenin could not have devised a better strategy for "active propaganda of the idea" in order to keep the decadent alternate views of the vacillating *bourgeoisie* from confusing the *proletariat* in the information age.

Is this really a problem? Yes. Scientific writing has to rely on the voluntary commitment of scientists to acknowledging the contributions of previous researchers to solutions to a given problem, because all scientific writing relies on evidence of consistency with other evidence to establish the truth of a proposed relation between

events in the subject under consideration. Consumers also need to know the range of available solutions to a problem so that they can evaluate the relative risks, costs, and benefits of a treatment procedure according to their own values (Meinhold & Mulick, 1992; Mulick & Meinhold, 1992), and not someone else's set of values (Meinhold, Mulick, & Teodoro, 1994).

So What's New in PBS?

It remains difficult to ascertain what is new, unique, or additive from the research base presented by PBS investigators. Carr et al. (1999), for example, identified two categories of PBS intervention strategies: stimulus-based interventions and reinforcement-based interventions. Stimulus-based interventions were described as those actions that would change the environment to promote positive behavior change. Examples included interspersal training, expanding choice, curricular modification, and manipulation of setting events. Reinforcement-based interventions were described as strategies designed to increase positive behavior directly. These included functional communication training, differential reinforcement of alternative behavior, and self-management.

These intervention strategies identified by Carr and colleagues do not represent discoveries or inventions of PBS, nor are any of them unique to PBS. The use of interspersal training, which involves the presentation of a stimulus that elicits problem behavior with stimuli that elicit positive behavior, has not been limited to practitioners of PBS (Neef, Iwata, & Page, 1980). Harking further back in history, it can be said that interspersal training is related to the Premack Principle in that high frequency behaviors serve as reinforcement for low frequency behaviors (Premack, 1959). Choice opportunity in behavior analysis is as old as Skinner's box equipped with not one but two levers. Similarly, the use of curricular modifications to remove negative aspects of a task has been an established intervention for many years, with good examples preceding the PBS movement (Ayllon, Layman, & Burke, 1972). Errorless learning procedures, which involve the gradual transfer of stimulus control, were identified decades before PBS came into existence (Martin & Pear, 1983; Terrace, 1963). The manipulation of setting events was discussed much earlier than the advent of positive behavior support (Bijou & Baer, 1961; Kantor, 1970; Rojahn, Mulick, McCoy, & Schroeder, 1978) and relies on Skinner's identification of the motivational functions of stimuli (Skinner, 1957). Further, the related concept of establishing operations (Michael, 1982) has been discussed extensively outside of PBS circles (Agnew, 1998; Leigland, 1984; Michael, 2000; Northup, Fusilier, Swanson, Roane, & Borrero, 1997; Worsdell, Iwata, Conners, Kahng, & Thompson, 2000).

Similarly, there is nothing new about the reinforcement-based strategies advocated by PBS proponents. Functional communication training, though an effective technology, is merely one way to utilize knowledge about functional relationships, which is the very foundation of applied behavior analysis (Baer et al., 1968). Self-management procedures had been identified as a positive treatment option prior to the PBS movement (Kazdin, 1975; Mahoney, 1972) and had first been considered by B. F. Skinner (1953). PBS does not claim to have invented reinforcement schedules, which would be too laughable even for them. However, Carr et al. (1999) do contend that differential reinforcement of other behaviors (DRO) is not a *positive* procedure and should be avoided. The reinforcement of any behavior other than targeted

problem behavior could lead, PBSers contend, to no reinforcement during long periods of time. Instead, positive behavior support interventionists should use *differential reinforcement of alternative behaviors (DRA)*. Making this point, the PBS movement argues for the teaching of functional alternative behaviors, but it is unclear with whom they are arguing. We do not disagree; neither do other behavior analysts who pre-date the PBS movement (Deitz & Repp, 1983; Deitz, Repp, & Deitz, 1976; Mulick, Hoyt, Rojahn, & Schroeder, 1978; Mulick, Schroeder, & Rojahn, 1980). The "DRA/DRO controversy" is based on the misleading premise that DRA procedures had never been used and that DRO procedures were used unethically prior to the advent of PBS. But, really, logic dictates that at the very least reinforcement of response withholding *does* reinforce a positive act of using competing muscle groups that must be used to result in behavior other than the previous response. We have always advised that it is preferable to teach functional replacement skills, and not the mere absence of observable undesired behavior, but such values do not make a new applied science, and in this case seem to have distorted perception of underlying behavioral processes.

The true folly, and indeed real danger, of the PBS movement is this drive to find something new. For instance, antecedent control, through the manipulation of setting events and establishing operations, has become a hallmark of PBS interventions (Luiselli & Cameron, 1998). The use of establishing operations to create motivation has a long tradition in behavior analysis (Michael, 1982) and is not unique to PBS. What is peculiar to PBS is the selection of setting events or establishing operations that are "person-centered," "individualized," and directed toward achieving "meaningful outcomes" (Anderson & Freeman, 2000), as if there could be an establishing operation that was not individualized.

This foolishness was manifested in a recent study by a group of PBS researchers who sought a new application of setting events to improve the lifestyle of people with developmental disabilities. Carr, McLaughlin, Giacobbe-Grieco, and Smith (2003) studied the role of "mood" as an establishing operation or setting factor for problem behaviors. After defining mood, not as an internal emotional state but as a "confluence of a number of setting events" (p. 33), such as yelling, pouting, and appearing to be irritable, angry, and frustrated, Carr et al. (2003) demonstrated that "bad mood" ratings by staff members predicted more severe problem behaviors (e.g., aggression, self-injury, and property destruction) than "neutral" or "good mood" ratings in demand situations. They used these data to develop an intervention to reduce problem behaviors. The intervention involved the induction of positive mood when a bad mood was identified. Positive mood was induced by the implementation of a preferred activity or access to a preferred tangible reinforcer. Positive mood induction took as little as 15 minutes of positive interaction or as much as 45 minutes. Compliance with task demands increased and severe behavior problems were eliminated over baseline after positive mood induction for each subject.

The study was presented as a powerful example of how a complex, contextual, and highly individualized variable (i.e., bad mood) could be manipulated to prevent the occurrence of severe problem behaviors. Yet, it could just as easily have been interpreted as positive reinforcement for "yelling, pouting, and appearing to be irritable, anger, and frustrated." Merely calling it a mood intervention is disingenuous when the actual criteria have been made explicit.

Further, as we read the study, the implementation of positive mood induction contingent on the presence of bad mood suggests that bad mood might have been powerfully reinforced. In this way, it could be reasoned that the positive mood induction intervention served to maintain or perhaps even increase bad moods. Carr et al. (2003) commented that bad moods were infrequent, but they did not provide any data about the stability or possible increase of bad mood over time, and without this kind of follow-up data it is difficult to interpret the efficacy of this antecedent control intervention. In an effort to individualize treatment and obtain meaningful outcomes, this group of researchers appears to have overlooked the possibility that their intervention may be related to an unfortunate outcome—the proliferation of a bad mood.

The long-term follow-up of these patients could reveal overall increases in irritability and an eventual return of severe destructive behavior when staff tired of implementing mood induction procedures. A scientific approach to this study could have considered the role of the three-term-contingency and could avoid this plausible longitudinal outcome. These researchers were blinded by their quest to discover something new and to make lifestyle changes in their subjects, neither of which may be durable or operating in this instance.

PBS Promises

In PBS, then, it is not what they do that is so very different in theory from practices of mainstream behavioral psychologists and other practitioners of behavior analysis; rather, it is how they *see* what they do, how they want *others* to see what they do, and *why* they do what they do that constitute the difference. Carr et al. (2002) could not have made it more explicit. They tell us that their new science is to be consistent with normalization ideology (Wolfensberger, 1972, 1983), inclusion goals in school and in society, and person-centered values. To this they add an additional aim, that of changing the focal person's lifestyle, sometimes together with the lifestyles of those who regularly deal with the focal person. Moreover, some advocates of PBS, including leading PBSers, even disagree about whether the procedures they use are those of applied behavior analysis or of something quite different (Carr & Sidener, 2002).

Mulick and Kedesdy (1988) warned that normalization was an ideology, a sociopolitical program, and that when treatment decisions were based on it first and on empirical findings second, disquieting things happened. They showed that effective behavioral treatment for self-injurious behavior in people with mental retardation—treatments that worked—could not be derived from normalization philosophy. They also showed that interventions consistent with normalization could not be supported by the findings of research demonstrating effective applications of behavioral intervention with these problems. This disconnect suggested that ideology and science as applied to effective treatment of destructive behavior were not compatible *at the same level of analysis*; that of treatment verification (Foxx, chap. 18, this volume).

Normalization emphasizes trying to achieve the most normal modes of living and behaving for people with mental retardation, and to help this along by helping others to perceive them as normal. These are feasible goals, to an extent, by using principles and methods of behavioral science. The problem comes when there are

inconsistencies with reality; with the realities of producing reliable behavior change in people with mental retardation, and with the effectiveness of cosmetic enhancement of their appearance in producing normal reactions to them by people in the general population.

Abnormal behavior can be caused and maintained by very normal reactions of people to the abnormal behavior of those with mental retardation. For example, typical sorts of attending to and sympathizing with a person whose destructive behavior is maintained by social attention, a common enough relation in clinical practice, often serves to worsen it. At the very least in such a case, the normal and immediate expression of sympathy should be withheld and a somewhat atypical set of maneuvers carried out to either discourage or displace the destructive behavior. In addition, the conscious arrangement of behavioral contingencies, prompts, and systematic environmental rearrangements characteristic of applied behavior analysis interventions are themselves far from typical of routine human interaction. To put it bluntly, it is abnormal to be as systematic and consistent as is often required for effective behavioral treatment, or, for that matter, effective counseling or psychotherapeutic, services. Effective interventions have to be consistent with the laws of nature, not merely with how ordinary folks react in every day situations. After all, it is most often the case that ordinary living in the ordinary world (inevitable warts and all) is what has caused the person (who may have a defect or disability that creates vulnerability) to acquire the "challenging" undesired behavior.

Inclusion is another insufficient therapeutic concept. In our work, we have seen children placed with age-peers in music and art and gym classes in schools where neither normalization of their behavior nor of their peers' behavior toward them was achieved. Instead, children without prerequisite skills of understanding language or knowing what to do practiced the behavior they did know how to do, that of rocking, or gazing at lights, or touching themselves and others. They literally were given practice opportunities in ignoring group instruction, ignoring the teacher and the ongoing activity, and ignoring their otherwise engaged peers, at which they could be expected to get better and better with the additional practice. People learn all the time. They learn the actions they actually perform, utterly independently of our hopes and intentions for them.

A scientific approach would suggest that beneficial inclusion has to follow after there has been sufficient learning of prerequisite skills to be able to respond appropriately to the inclusive setting, or at least that extensive prerequisite skill training is provided in and continues after entry to the setting. People who find themselves in a setting look normal only when they can respond to the demands on their behavior in that setting, otherwise they behave abnormally. When people look abnormal, they are less often treated normally or given equal opportunities. In the early stages of inclusion, there will often be the need for systematic help, prompts, and extra reinforcement. This permits strengthening of participation skills in the setting in which they are called for. Further, it can easily be seen that inclusion is a fraud in the absence of participation, and participation is sometimes impossible without prerequisite learning. When inclusion simply in the form of physical presence has greater or equal weight than assuring that the behavioral relations needed to support participation are in place, little normalization will occur. There is a good possibility that *ab*normalization of everyone and the inclusive setting will follow instead. When a stu-

dent is ready for inclusion, however, it can be shown that they learn how to behave more normally in classes with typical peers than with peers who behave atypically (Smith, Lovaas, & Lovaas, 2002). Readiness is all, but readiness is no accident, no mere moral choice.

Person-centered values are another set of considerations in PBS. As applied to planning the therapeutic or educational or habilitative programs for people with disabilities, person-centered values are supposed to emphasize the autonomy and community in which the focal person lives. But Carr et al. (2002) actually suggested that "humanistic" (sic; they seem to mean "humanitarian" as opposed to "humanistic," because the latter term involves adopting solutions to problems based on what is possible for people to accomplish without supernatural help from a deity) values should "inform empiricism." This is exactly the wrong order, because when values inform science, the outcome is predetermined by the values. When values inform us about what must be done, by whom, and by what means, before we find out what is actually feasible or possible, then ineffective, even absurd choices may be inevitable. The right order is for humanitarian values to be employed first in formulating our questions and then only after the data have been collected, after what is feasible has been determined, and after what is possible is ascertained. Humanitarian choices must follow what science determines is feasible, given the social context, or the full range of options may never even be discovered, and the people whom we seek to help may be made helpless rather than helped.

Experience in many aspects of life informs us that bad seeming options seem much better after they are discovered to be the only ones that might actually work. In this regard, while constantly trying to improve the underlying science and specific technological applications, we will still accept risks of serious reactions by accepting, say, vaccination for dangerous diseases, of accidental injury and death from high speed travel in modern vehicles, of unemployment and obsolescence from embracing ever more automation in our lives, and from readily accepting a host of other risks from modern tools and technologies. Indeed, when given the freedom to do so, we reject paternalistic interference with these choices by government (and do-gooders who intrude on our freedoms "for our own good") if we believe the benefit justifies the risk. What if person-centered plans, then, reflect our own values more than those of the person for whom we plan?

Lest the reader think these admonitions are self-evident and not at all characteristic of PBSers, a few examples will help to establish that from the earliest days of PBS, in its first incarnation as the "non-aversive behavior modification movement," leaders of the movement have acted in ways previously suggested. These actions have been consistent in the past, serve the interests of their advocates, embrace convenient falsehoods, and continue to the present time. We address them one at a time.

PBS Reality

Using the Freedom of Information Act, colleagues at Ohio State University had a chance to examine a copy of the first grant application that established the "non-aversive behavior modification consortium." Examination of the proposal, submitted to the U.S. Department of Education in the early 1980s, revealed that already standard behavior modification procedures were described as innovative

and as generally effective as any other sort of procedure that might involve aversive motivation in changing behavior. Neither assertion had been demonstrated to be true (and still has not been), but that did not stop members of the consortium or the U.S. Department of Education from setting up a national network of training programs designed to disseminate these "innovations." The consortium eventually morphed into the national network of Rehabilitation Research and Training Centers on Positive Behavioral Support, and funding and publications continue to flow. PBS leaders even managed to use their inside status with the U.S. Department of Education to insert a vague and somewhat ungrammatical reference to the following in the student discipline section of the 1997 reauthorization of IDEA (Public Law 105-17):

> (B) CONSIDERATION OF SPECIAL FACTORS- The IEP Team shall—
>
> (i) in the case of a child whose behavior impedes his or her learning or that of others, consider, when appropriate, strategies, including *positive behavioral interventions, strategies, and supports* [italics added] to address that behavior. (Public Law 105–17, p. 57)

and later:

> (C) REQUIREMENT WITH RESPECT TO REGULAR EDUCATION TEACHER—
>
> The regular education teacher of the child, as a member of the IEP Team, shall, to the extent appropriate, participate in the development of the IEP of the child, including the determination of appropriate *positive behavioral interventions and strategies* [italics added] and the determination of supplementary aids and services, program modifications, and support for school personnel consistent with paragraph (1)(A)(iii). (Public Law 105–17, p. 57)

Although the specific words in the law are vague, PBS insiders have lost no time in numerous writings claiming federal authority for PBS, and that this authority is whatever they happen to feel like saying it is. There is no other reference even vaguely related to PBS in the law. However, if PBSers state that the methods they use are the methods of applied behavior analysis (ABA)—as has been found to be the case by Carr and Sidener, 2002, in their review—then the inclusion of PBS in federal legislation, factually, also includes ABA.

Professor Rob Horner of the University of Oregon, a leader of the original nonaversive consortium, sent letters in the early 1980s to professionals in developmental disabilities asking them to become members of a referral network consisting of those who would be willing to treat destructive behavior disorders in people with developmental disabilities. To be a network member, the professional had to sign a statement saying that aversive procedures would not be used in treatment. In that this amounted to deciding on treatment before the client had been assessed, or even identified, it violated the most basic tenets of professional psychology's ethics code requiring that such decisions are only made in the context of a professional relationship (American Psychological Association, 1981, 1992). The senior author of this chapter and many of his colleagues were unable to sign this agreement. It also, of course, made no scientific sense.

More recently, we tried to refer a child and his concerned parents to an agency in a nearby state where we had had contact with professionals specializing in behav-

ioral interventions of a kind we knew the child needed immediately. Based on this contact, we knew the agency staff would know how to meet the child's treatment needs if the family moved to that state. The situation was then complicated by a custody conflict between the now separated father and mother. A court appointed *guardian ad leitem* became involved, and tried to verify the availability of behavioral treatment services like the ones we recommended for the child in both the nearby state and the other parent's location. The *guardian ad leitem* was a lawyer, unfamiliar with services of this type, and phoned the agency we had indicated in the other state to verify that they offered behavioral services. We were astonished that the person responding to the lawyer said that the agency did not offer applied behavior analysis services, but *rather positive behavioral support;* something different! The custody decision was delayed several months as a result, and the child remains at this writing denied appropriate services as the parents continue their legal enmeshment.

Peer review is the hallmark of scientific publication. This involves the review of research papers by experts in a given field prior to publication to assure that they meet standards of originality, validity, and value to the field. These reviews are supposed to be based on scientific standards, not ideological ones. As early as the 1980s, however, The Association for Persons With Severe Handicaps (TASH), after passing a resolution banning the use of aversive procedures, began using an ideological standard for publishing articles in their journal and for papers presented at their national conference. This was confirmed by telephone calls placed at the time by the senior author to Professors Rob Horner, then editor of the TASH journal (*JASH*, now *Research to Practice*), and Lou Brown, a founder of TASH, who were asked about the kinds of papers that could be presented at conferences. Brown indicated that papers, say, about a comparison between timeout and overcorrection in the treatment of dangerous behavior (both validated treatment procedures) would have been unacceptable for the conference because parents attend the conference and should not hear such things. So much for peer review, unless by peers only certain paternalistic ideologues qualify.

TASH, as would be expected, endorses PBS (TASH, 2000b). Then again, Lou Brown (1990) described TASH as unique among disability organizations in, among other things, "addressing the ideological." True enough, and fair enough because TASH describes itself on its Web site as a "civil rights organization" (TASH, n.d.). It does not follow, then, that publications in its journal are peer reviewed in the same sense as articles in behavioral science journals, or as a result that articles in their journal can be cited in support of scientific assertions of truth. Yet, such is implied by PBS advocates in many of their writings. Alas, the newly established *Journal of Positive Behavior Interventions* published by Pro-Ed (2002) may not be much more scientifically defensible, but at least the title represents truth in advertising. The same players, however, publish in both places, may have difficulty differentiating their beliefs from reality consistent with PBS ideas, and will probably continue to wrap up reinforcement in fancy new clothes. It has to be hoped that the research this new journal will publish will not misrepresent aversive processes in behavior analysis, other behavior analysts, and sincere efforts to help others when some element of aversive motivation is openly employed, as has characterized some TASH articles (Mulick, 1990).

Inclusion is the setting in which to hone prosocial skills; to learn how to participate in normative ways in the typical activities of the community. We have already

indicated that prerequisite learning may be necessary to enable a person with a disability to truly participate. Some TASH activists, now associated with PBS, realized this as well, but saw that some people seemed not even to understand language, much less the subjects being taught in school. The answer for their inclusion was facilitated communication (FC). FC, now generally recognized as unequivocally bogus (except by TASH; see TASH, 2000a), was an apparent solution to the problem of achieving universal inclusion. Gullible people who were introduced to FC were admonished to assume that all people could communicate, even if they never had communicated before (Mulick, Jacobson, & Kobe, 1993). This was a direct attempt to induce an illusion of communication, and it often worked unless control procedures were used to disprove it (Jacobson, Mulick, & Schwartz, 1995). One of the authors of the Carr et al. (2002) paper, said of FC: "It is constructivism in communication. It is understood as a product of sender and receiver processes rather than standing back and interpreting what a sender is trying to send. Facilitated communication is a product of an interactive process" (Sailor, 1994, p. 10).

But it was never that. It was a false representation constructed by the facilitator out of his or her nonconscious behavior (Spitz, 1997), beliefs, possibly even hopes, but it was not true. Not being true, it failed the person with the handicap because it misrepresented his or her real desires and needs. Without anyone realizing it in many cases, FC subjected the person with the handicap to another person's possibly antithetical desires and needs. Once again, it can be seen how powerful a distortion basing one belief on another can be when one of them is just not true. Why must we repeat this shameful history with yet another admonition to place our hopes and beliefs ahead of verifiable evidence from some of the same individuals and agencies; to join their chorus in praise of the superiority of their "new science" based on overriding and antecedent beliefs?

CONCLUSION

We can, and should have a science of values, a way of understanding how values come to be held. We agree that it is scientifically vital to measure the effects that values exert on choices people make for themselves and others. Skinner (1971) began such a study when he wrote his classic *Beyond Freedom and Dignity*. Ironically, he made the point that aversive contingencies in society contribute to the *illusion* of human autonomy and dignity. In contrast, a scientific analysis of values suggested to him that values are, as are other choices, the direct biological result of past individual (and species) interactions with the real world and the present availability of relevant opportunities for action; are *completely determined* by these types of selection, controlling relations and reinforcers. We cannot, however, have a value-based science, because science requires the goal of discovering the truth, whether we like it or not, whether we say so or not, and whether we can do what we want with it or not. What we want for ourselves and for others has to take a secondary place to what is real, or we will run a much heightened risk of frustration and failure.

PBS fails as a science because it does not indicate how to differentiate reality from desire. It fails because it subordinates method and measurement. It is an ex-

mple of an effort by people driven to seek leadership to achieve their political goals through convincing others to surrender their critical faculties. We insist that it matters greatly how leadership and position are achieved. Konrad Lorenz, known today as the Nobel Laureate in Medicine whose fatherly image as the white bearded scientist followed by ducklings to illustrate his discovery of the early critically timed learning phenomenon of species imprinting, was also the former young man who could write in 1940:

> The only resistance which mankind of healthy stock can offer ... against being penetrated by symptoms of degeneracy is based on the existence of innate schemata ... Our species-specific sensitivity to the beauty and ugliness of members of our species is intimately connected with the symptoms of degeneration, caused by domestication, which threaten our race .... We must—and should—rely on the healthy feelings of our Best and charge them with the selection which will determine the prosperity or the decay of our people .... (quoted in Eisenberg, 1972)

It was not necessarily a subsequent coincidence that his pro-eugenic writings so impressed authorities in the Third Reich that he was appointed to a full university chair at an unusually early age; nor was it necessarily an oversight that some of these writings failed to appear on later editions of his curriculum vitae (Eisenberg, personal communication, 1973). We are led to wonder what, really, those who advance PBS hope to achieve by their over-promising, by their use of deceptive language, by their selective scholarship, and very little else.

As we write, we realize that our values, in fact, are not so very different from those described in the PBS literature. We do not believe children or people with disabilities should be humiliated or harmed by professionals, the government, or anybody. We do not hold ourselves out as father figures or arbiters of the lifestyles of others. We think the needs of the patient and his or her family should be the focus of treatment. We agree that treatment should lead to outcomes characterized by more choices, more freedom from external coercion, and more satisfaction. These are our values, and we do not feel a need to have them endorsed by a group of special educators and professional advocates in order to hold them or to work toward them. We recognize them as *our* values, and remind ourselves that working toward these outcomes on a short-term basis is a matter of dealing with three important realities. First is that choices lie with all parties in the therapeutic contract: we practitioners, the focal person or patient, and the people who will live with the focal person and the treatment priorities established. Second is that wishful thinking leads to error. The only way such error can be ameliorated is by second-guessing ourselves; by insisting that we are continuously checked. By checking, we mean that our assertions will be examined using methods designed to verify our beliefs about cause and effect, about efficacy and efficiency, and about whether or not our values are held as widely as we hope and believe. Finally, we realize that the world often needs to be changed, as opposed to the individual nominally said to have a problem. We temper this by recognizing that some forces are not ours to control, and that urgency may require us to make, together with the people with whom we work, hard choices in the short term to achieve the greatest benefit in the long term.

REFERENCES

Agnew, J. (1998). The establishing operation in organizational behavior management I. *Journal of Organizational Behavior Management, 18*(1), 7–19.

Allyon, T., Layman, D., & Burke, S. (1972). Disruptive behavior and reinforcement of academic performance. *Psychological Record, 22*, 315–323.

American Psychological Association. (1981). Ethical principles of psychologists. *American Psychologist, 36*, 633–638.

American Psychological Association. (1992). Ethical principles of psychologists. *American Psychologist, 47*, 1597–1611.

Anderson, C. M., & Freeman, K. A. (2000). Positive behavior support: Expanding the application of applied behavior analysis. *The Behavior Analyst, 23*, 85–94.

Baer, D. M., Wolf, M. M., & Risley, T. (1968). Current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis, 1*, 91–97.

Belkin, J. M. (1998). *Cultural software: A theory of ideology*. New Haven, CT: Yale University Press.

Bijou, S. W., & Baer, D. M. (1961). *Child development: Vol. 1. A systematic and empirical theory*. New York: Appleton-Century-Crofts.

Bowers, T. G., & Clum, G. A. (1988). Relative contribution of specific and nonspecific treatment effects: Meta-analysis of placebo-controlled behavior therapy research. *Psychological Bulletin, 103*, 315–323.

Brown, L. (1990, September). *Who are they and what do they want? – An essay on TASH*. Retrieved February 21, 2003, from http://www.tash.org/misc/loubrown.htm

Brown, S. W., & Boltz, M. G., (2002). Attentional processes in time perception: Effects of mental workload and event structure. *Journal of Experimental Psychology: Human Perception and Performance, 28*, 600–615.

Carr, E. G., Dunlap, G., Horner, R. H., Koegel, R. L., Turnbull, A. P., Sailor, W., et al. (2002). Positive behavior support: Evolution of an applied science. *Journal of Positive Behavior Intervention, 4*(1), 4–16, 20.

Carr, E. G., Horner, R. H., Turnbull, A. P., Marquis, J. G., McLaughlin, D. M., McAtee, M. L., et al. (1999). *Positive behavior support for people with developmental disabilities: A research synthesis*. Washington, DC: American Association on Mental Retardation.

Carr, E. G., McLaughlin, D. M., Giacobbe-Greico, T., & Smith, C. E. (2003). Using mood ratings and mood induction in assessment and intervention for severe problem behavior. *American Journal on Mental Retardation, 108*, 32–55.

Carr, J. E., & Sidener, T. M. (2002). On the relation between applied behavior analysis and positive behavioral support. *Behavior Analyst, 25*, 245–253.

de Haan, M., Humphreys, K., & Johnson, M. H. (2002). Developing a brain specialized for face perception: A converging methods approach. *Developmental Psychobiology, 40*, 200–212.

Deitz, D. E. D., & Repp, A. C. (1983). Reducing behavior through reinforcement. *Exceptional Education Quarterly, 3*, 34–46.

Deitz, S. M., Repp, A. C., & Deitz, D. E. D. (1976). Reducing inappropriate classroom behavior of retarded students through three procedures of differential reinforcement. *Journal of Mental Deficiency Research, 20*, 155–170.

Eisenberg, L. (1972). The human nature of human nature. *Science, 176*, 123–128.

Friedlander, H. (1995). *The origins of Nazi genocide: From euthanasia to the final solution*. Chapel Hill, NC: The University of North Carolina Press.

Guess, D., Helmstetter, H., Turnbull, H. R., & Knowlton, S. (1987). *Use of aversive procedures with persons who are disabled: An historical review and critical analysis*. Seattle, WA: The Association for Persons With Severe Handicaps.

Jacobson, J. W., Mulick, J. A., & Schwartz, A. A. (1995). A history of facilitated communication: Science, pseudoscience, and antiscience. *American Psychologist, 50*, 750–765.

Kantor, J. R. (1970). An analysis of the experimental analysis of behavior. *Journal of the Experimental Analysis of Behavior, 13*, 101–108.

Kazdin, A. E. (1975). *Behavior modification in applied settings*. Homewood, IL: Dorsey Press.
Kimble, G. A. (Ed.). (1967). *Foundations of conditioning and learning*. New York: Appleton-Century-Crofts.
Kircheis, G., Wettstein, M., Timmermann, L., Schnitzler, A., & Haussinger, D. (2002). Critical flicker frequency for quantification of low-grade hepatic encephalopathy. *Hepatology, 35*, 357–366.
Leigland, S. (1984). On "setting events" and related concepts. *Behavior Analyst, 7*, 41–45.
Luiselli, J. K., & Cameron, M. J. (Eds.). (1998). *Antecedent control: Innovative approaches to behavioral support*. Baltimore: Brookes.
Mahoney, M. J. (1972). Research issues in self-management. *Behavior Therapy, 3*, 45–63.
Martin, G., & Pear, J. (1983). *Behavior modification: What is it and how to do it*. Englewood Cliffs, NJ: Prentice-Hall.
Meinhold, P. M., & Mulick, J. A. (1992). Social policy and science in the treatment of severe behavior disorders: Defining and securing a healthy relationship. *Clinical Psychology Review, 12*, 585–603.
Meinhold, P. M., Mulick, J. A., & Teodoro, J. M. (1994). Risks and costs of SIBIS-treatment litigation: Focus on the family. *Journal of Child and Family Studies, 3*, 403–415.
Michael, J. (1982). Distinguishing between discriminative and motivational functions of stimuli. *Journal of the Experimental Analysis of Behavior, 37*, 149–155.
Michael, J. (2000). Implications and refinements of the establishing operation concept. *Journal of Applied Behavior Analysis, 33*, 401–410.
Mudford, O. C., Cross, B. A., Breen, S., Cullen, C., Reeves, D., Gould, J., et al. (2000). Auditory integration training for children with autism: No behavioral benefits detected. *American Journal on Mental Retardation, 105*, 118–129.
Mulick, J. A. (1990). The ideology and science of punishment in mental retardation. *American Journal on Mental Retardation, 95*, 142–156.
Mulick, J. A., & Antonak, R. F. (1992). The legacy of eugenics. *Psychology in Mental Retardation and Developmental Disabilities, 18*(1), 5–9.
Mulick, J. A., Hoyt, P., Rojahn, J., & Schroeder, S. R. (1978). Reduction of a "nervous habit" in a profoundly retarded youth by increasing independent toy play. *Journal of Behavior Therapy and Experimental Psychiatry, 9*, 25–30.
Mulick, J. A., Jacobson, J. W., & Kobe, F. H. (1993). Anguished silence and helping hands: Autism and facilitated communication. *The Skeptical Inquirer, 17*(3), 270–280.
Mulick, J. A., & Kedesdy, J. H. (1988). Self-injurious behavior, its treatment, and normalization. *Mental Retardation, 26*, 223–229.
Mulick, J. A., & Linscheid, T. R. (1988). A review of LaVigna and Donnellan's *Alternatives to Punishment: Solving Behavior Problems with Non-aversive Strategies*. *Research in Developmental Disabilities, 9*, 317–327.
Mulick, J. A., & Meinhold, P. M. (1992). Analyzing the impact of regulations on residential ecology. *Mental Retardation, 30*, 151–161.
Mulick, J. A., Schroeder, S. R., & Rojahn, J. (1980). Chronic ruminative vomiting: A comparison of four treatment procedures. *Journal of Autism and Developmental Disorders, 10*, 203–312.
Neef, N. A., Iwata, B. A., & Page, T. (1980). The effects of interspersal training versus high-density reinforcement on spelling acquisition and retention. *Journal of Applied Behavior Analysis, 13*, 153–158.
Northup, J., Fusilier, L., Swanson, V., Roane, H., & Borrero, J. (1997) An evaluation of methylphenidate as a potential establishing operation for some common classroom reinforcers. *Journal of Applied Behavior Analysis, 30*, 615–625.
Premack, D. (1959). Toward empirical behavioral laws: I: Positive reinforcement. *Psychological Review, 66*, 219–233.
Pro-Ed. (2002, March 4). *Journal of Positive Behavior Interventions: Author guidelines*. Retrieved February 21, 2003, from http://www.proedinc.com/submission_jpbi.html
Rauch, J. (1993). *Kindly inquisitors*. Chicago: The University of Chicago Press.

Rimland, B., & Edelson, S. M. (1995). Auditory integration training in autism: Brief report of a pilot study. *Journal of Autism and Developmental Disorders, 25,* 61–70.

Roberts, A. H., Kewman, D. G., Mercier, L., & Hovell, M. (1993). The power of nonspecific effects in healing: Implications for psychological and biological treatments. *Clinical Psychology Review, 13,* 375–391.

Roediger, H. L., III, & McDermott, K. B. (1995). Creating false memories: Remembering words not presented in lists. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 21,* 803–814.

Rojahn, J., Mulick, J. A., McCoy, D., & Schroeder, S. R. (1978). Setting effects, adaptive clothing, and the modification of head–banging and self–restraint in two profoundly retarded adults. *Behavioral Analysis and Modification, 2,* 185–196.

Rosenthal, R. (1976). *Experimenter effects in behavioral research* (enlarged ed.). New York: Irvington.

Sailor, W. (1994, March). *Untitled luncheon presentation.* Remarks presented at the Fourth Annual Integration Institute (conference), Cosa Mesa, CA.

Simons, D. J. (2003). *Surprising studies of visual awareness* [DVD]. Boulder, CO: Viscog Productions. Available from http://www.viscog.com

Skinner, B. F. (1953). *Science and human behavior.* New York: Macmillan.

Skinner, B. F. (1954). Critique of psychoanalytic concepts and theories. *Scientific Monthly, 79,* 300–305.

Skinner, B. F. (1957). *Verbal behavior.* New York: Appleton-Century-Crofts.

Skinner, B. F. (1963). Behaviorism at fifty. *Science, 140,* 951–958.

Skinner, B. F. (1971). *Beyond freedom and dignity.* New York: Knopf.

Smith, T., Lovaas, N. W., & Lovaas, O. I. (2002). Behaviors of children with high-functioning autism when paired with typically developing versus delayed peers: A preliminary study. *Behavioral Interventions, 17,* 129–143.

Spitz, H. H. (1997). *Nonconscious movements: From mystical messages to facilitated communication.* Mahwah, NJ: Lawrence Erlbaum Associates.

Terrace, H. S. (1963). Discrimination learning with and without errors. *Journal of the Experimental Analysis of Behavior, 6,* 1–27.

The Association for Persons With Severe Handicaps. (2000a). *TASH resolution on facilitated communication.* Retrieved February 21, 2003, from http://www.tash.org/resolutions/res02faccom.htm

The Association for Persons With Severe Handicaps. (2000b). *TASH resolution on positive behavioral supports.* Retrieved February 21, 2003, from http://www.tash.org/resolutions/res02behavior.htm

The Association for Persons With Severe Handicaps. (n.d.). *TASH: Equity, opportunity and inclusion for people with disabilities since 1985.* Retrieved February 21, 2003, from http://www.tash.org/misc/index.htm

Weiss, S. F. (1987). *Race hygiene & national efficiency: The eugenics of Wilhelm Schallmayer.* Berkeley, CA: University of California Press.

Wolfensberger, W. (1972). *The principle of normalization in human services.* Toronto, Canada: National Institute on Mental Retardation.

Wolfensberger, W. (1983). Social role valorization: A proposed new term for the principle of normalization. *Mental Retardation, 21,* 234–239.

Worsdell, A. S., Iwata, B. A., Conners, J., Kahng, S. W., & Thompson, R. H. (2000). Relative influences of establishing operations and reinforcement contingencies on self-injurious behavior during functional analyses. *Journal of Applied Behavior Analysis, 33,* 451–461.

Zane, N. W. S. (1989). Change mechanisms in placebo procedures: Effects of suggestion, social demand, and contingent success on improvement in treatment. *Journal of Counseling Psychology, 36,* 234–243.

EXHIBIT 9

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CONTINGENT ELECTRIC SHOCK (SIBIS) AND A CONDITIONED PUNISHER ELIMINATE SEVERE HEAD BANGING IN A PRESCHOOL CHILD

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We report a case in which a Self-Injurious Behavior Inhibiting System (SIBIS) device and a conditioned punisher were utilized to decrease and maintain suppression of severe head hitting/banging in a preschool child. After an experimental evaluation conducted at the hospital, SIBIS was implemented at home. The originality of this particular SIBIS case study is that programmed and systematic effort at establishing conditioned punishment was included in the intervention. Results indicate that a zero-level response was rapidly reached, and that the conditioned punisher (i.e. verbal prompt + movement towards the place where SIBIS was kept) was sufficient to maintain treatment effects. Continuous assessment after treatment and formal observation session at 7 months follow-up revealed that SIBIS could be removed from the natural environment of the child while maintaining a therapeutic effect. These results were interpreted as the effects of the explicit pairing between the delivery of electric stimulations and previously neutral stimuli, which were initially ineffective to elicit any response, or to suppress SIB. Close and extended monitoring during and after treatment failed to reveal the presence of negative side effects associated with SIBIS, whereas a number of positive effects were observed.

INTRODUCTION

Operant punishment may be critical to treatment success when the variables maintaining problem behavior cannot be identified or controlled (Dura, 1991; Iwata, 1988; Vollmer & Iwata, 1993), or when problem behavior must be suppressed rapidly

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to prevent serious injury, as it is the case with self-injurious behavior (Linscheid, 1993; Linscheid & Meinhold, 1990; Linscheid, Pejeau, Cohen, & Footo-Lenz, 1994; Matson & DiLorenzo, 1984; Mulick, 1990; Mulick & Kedesdy, 1988; Mulick, Schroeder, & Rojahn, 1980; Van Houten, 1983). Self-injurious behavior (SIB), displayed by individuals with autism and mental retardation, involves the occurrence of behavior that results in physical injury to one's own body. In the most severe cases, SIB can result in broken bones, bleeding, brain injury, and even death. SIB has been particularly resistant to treatment through solely nonaversive means. In fact, in their review of the scientific literature the Association for Advancement of Behavior Therapy, Task Force on Self-Injurious Behavior, noted that differential reinforcement has produced inconsistent results at best when used as a single intervention for SIB (Favell et al., 1982). Subsequent reviews of the literature on punishment and SIB (e.g. Axelrod & Apsche, 1983; Guess, Helmstetter, Turnbull, & Knowlton, 1987; Matson & DiLorenzo, 1984; Romanczyk, 1986) have essentially produced the same conclusions about the relative effectiveness of punishment versus reinforcement in decreasing behavior (Linscheid, Iwata, Ricketts, Williams, & Griffin, 1990). This said, ethical issues associated with the use of aversive procedures argue strongly for the development of methods that shorten the duration of the punishment intervention and increase its effectiveness and maintenance over time.

Considered by many to be one of the most intrusive behavioral interventions, response contingent electrical stimulation is potentially superior to and safer than a number of other frequently used punishment techniques (Linscheid et al., 1990). The effectiveness of electrical stimulation resides in several potential factors: the immediacy of delivery, the inability of the subject to avoid or escape the punishing stimulus, and the close contiguity between the target behavior and the punishing consequence (thereby minimizing the likelihood that other responses in the individual's repertoire will be affected). In spite of its advantages and the potentially rapid suppression of target behaviors, punishment does not always result in maintenance of such benefits over time. One possible solution to this lack of durability of punishment effects is to use neutral stimuli paired with punishing ones to produce conditioned properties. Application of the conditioned punisher could shorten the individual's exposure to the primary aversive intervention and reduce factors related to program inconsistency when the treatment is extended (Lerman & Vorndran, 2002). This report presents the successful use of contingent electric shock using the Self-Injurious Behavior Inhibiting System (SIBIS; Linscheid, Hartel, & Cooley, 1993; Linscheid et al., 1990; Linscheid, Pejeau, Cohen, & Footo-Lenz, 1994) to suppress severe self injurious behavior in a preschool aged child. The novel aspect of this case is that a previously neutral behavioral sequence was explicitly paired with the delivery of electric stimulations and used as a conditioned punisher to maintain suppression of the target behavior.

METHOD

Subject

Johanna was a 3-year-old female with partial trisomy on chromosome 2, significant developmental delays, bilateral hearing loss, nearsightedness, and few language skills. Johanna had an 18 month history of SIB including hitting her head with objects (e.g. toys) and head banging against hard surfaces (i.e. walls and floors). The first instance of SIB reportedly occurred when Johanna inadvertently hit her head against her crib as she was trying to stand up.

The SIB was initially infrequent and restricted to her crib, but the behavior rapidly increased over 12 months, to reach a frequency of more than 100 episodes per day at the time of referral. At the time of consultation for treatment, the SIB was occurring across all settings and when Johanna was alone. Johanna had also been removed from preschool and special services she was receiving (i.e. occupational therapist) because of her problem behavior. According to her mother, SIB was elicited whenever Johanna was upset (regardless of the triggering event), tired or sick. As often as possible, Johanna's mother was trying to avoid reinforcing the behavior, but because of its severity the SIB could not be ignored. The SIB may have been intermittently reinforced by Johanna's mother who terminated the behavior by holding and cajoling her daughter or by giving in (e.g. providing her with what she apparently wanted). Johanna's mother had also tried to teach her functional communication or alternative ways to communicate her distress (e.g. showing a sad face and signed language) to express she was upset, but the SIB still occurred at high frequency. Furthermore, during her tantrums, the patient was displaying no responses that could have served as potential targets for reinforcement-based interventions (e.g. DRO, DRA). The patient was referred for evaluation and possible treatment with SIBIS by her physician and an early intervention professional. At the time of admission, Johanna's forehead was markedly bruised in several areas as a result of head banging.

The first intervention attempted with this family was to advise systematic positive reinforcement of incompatible behavior, and to minimize the positively reinforcing attributes of the parental response to the self-injury. Procedures were described and demonstrated for the parent with the child during treatment sessions. This proved ineffective because these procedures were rejected by caregivers after a period of time using them, because they were regarded as too emotionally and practically demanding to implement as much as needed. A decision analysis was then undertaken to select a more feasible approach (see Meinhold & Mulick, 1992, for a discussion of decision analysis as applied to treatment selection when risks must be balanced against costs and benefits). We estimated the risk of significant injury to

the child and of divisive family stress to be at unacceptable levels, therefore requiring effective and rapid treatment. The risk of poorly implemented or non-implemented positive procedures did not diminish these risks and arguably increased the level of family stress. The cost of implementing any home-based program involved charges for office visits, as well as home visits to monitor procedural implementation and to collect data. On the other hand, a positive-only program would have probably taken more resources (e.g. students helping the mother to implement an intensive DRA and teaching program), without providing a guaranty of the effectiveness of such treatment. The benefits of rapid suppression via contingent electrical stimulation were thought to greatly outweigh the comparable benefits of alternate intervention strategies. We reasoned that rapid suppression would also make more likely the acquisition of potentially competing appropriate behavior maintained by automatic and social reinforcement, primarily because removing the obsessive and socially disruptive SIB from this child's repertoire would increase her interest in sampling available reinforcing alternatives (Mulick & Meinhold, 1994). The SIBIS device for shock delivery was selected because of its excellent safety characteristics.

Apparatus

SIBIS is a device designed to provide a brief electrical stimulation. It consists of a stimulus module usually worn on the leg (measuring 5 cm × 3 cm × 1 cm) that provides the electrical stimulation, and a remote activator (measuring 3 cm × 2 cm × 1 cm) that activates the stimulator in sending coded radio signal. The stimulus module contains a radio receiver, microelectric circuitry for the generation and timing of the electrical stimulus, and a 9 V battery. SIBIS delivers an 85 V electrical stimulation at 24 kΩ skin impedance with a current of 3.5 mA. The stimulation is delivered in 16 pulses of 5 ms duration, evenly spaced across 0.2 s. The insulated electrode, also contained in the stimulus module, is configured in a concentric circle of 1.0 in diameter to ensure that current is localized at the site of the electrode. This design eliminates the risk that current will pass through the body cavity and into the heart. Subjectively, the experience has been described, at its extreme, as similar to having a rubber band snapped on the arm (see also Linscheid et al., 1990, for a detailed description).

Phase I: Experimental Evaluation

Head banging (i.e. forcible contact between head and objects or hard surfaces) was Johanna's most frequent and most serious SIB, and it served as the primary dependent variable. The behavior was recorded as a frequency count. Before starting the

Experimental evaluation trials, Johanna's mother was provided with a thorough description of SIBIS, and she was given the opportunity to ask questions. She was also informed that she would be responsible for carrying out the treatment after an initial phase of evaluation and parent training. She gave her informed consent to use SIBIS. The consent interview with the patient's mother and the subsequent experimental session were videotaped. These procedures are in agreement with the regulations for the therapeutic use of contingent electric shock in the State of Ohio.

During the experimental evaluation,[1] three observers (SJS, JM, and EB) recorded independently the occurrence of SIB through a one-way mirror, while TRL administered the contingent electrical stimulations in a room adjacent to the observation room. The observation agreement throughout the six 10 minute trials was 100% between both the three observers, and between the observers and the person delivering the electrical stimulations.

The effects of SIBIS were evaluated in a reversal design involving four conditions: baseline (BL), SIBIS inactive (SI), SIBIS active (SA), no device (ND), presented in the following sequence: BL, SI, SA, SI, ND, SA, ND. These trials were conducted in a testing room at the Department of Psychology at Children's Hospital. Johanna's mother was in the experimental room with her daughter throughout the evaluation, and physicians were available if needed. Each session lasted for 10 min.

Baseline

No treatment was in effect during this condition.

SIBIS Inactive

At the beginning of each of these trials, the stimulus box was placed on Johanna's leg, but the stimulus module was inoperative (i.e. no electrical stimulation was administered). The purpose of this condition was to evaluate whether the device per se was effective in suppressing SIB.

SIBIS

Prior to each session, the stimulus module was placed on Johanna's leg, and an electrical stimulation was provided each time head banging occurred.

[1]It is important to note that this experimental assessment was similar in many points to a functional analysis manipulation (i.e. empirically identify associations between events in the environment and problem behaviors). However, because the frequency of SIB was quite high and because the consequences were dangerous for the child, only one condition in which we predicted SIB to occur (i.e. removal of a preferred object) was assessed. Furthermore, it became rapidly clear that SIB was occurring every time she was upset or frustrated. Nevertheless, we prefer to use the expression 'experimental evaluation' to describe our procedure to avoid confusion and/or perpetuating an incomplete definition of what constitutes a comprehensive functional analysis.

No Device

This condition was identical to baseline as no treatment was in effect during this trial. However, since Johanna had been exposed to the experimental manipulation, this condition could not be described as a formal 'baseline'.

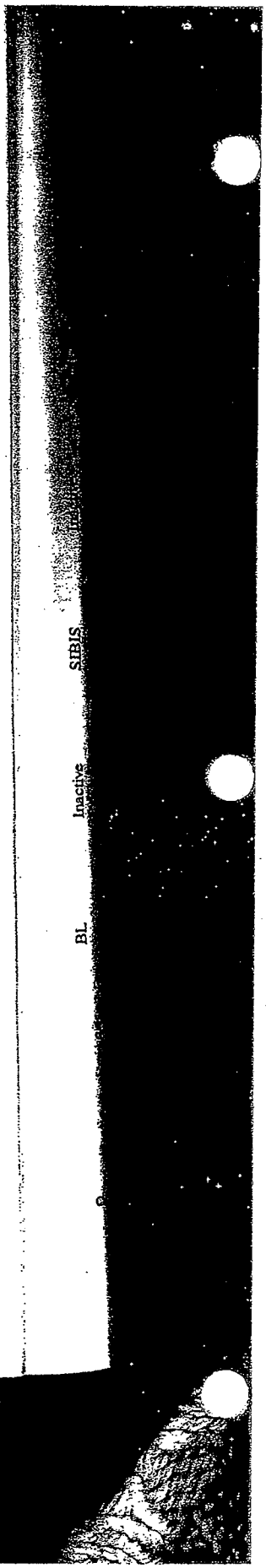
Phase II: Implementation at Home

Two weeks after the experimental evaluation, Johanna's mother was asked to record the occurrence of SIB over three consecutive days. On the fourth day, SIBIS was implemented at home and evaluated in a reversal design conducted over three consecutive days (SA, ND, SA). Johanna's mother began administering electrical stimulations under the supervision of the observers. On the SIBIS active days (days 4 and 6), and for the remainder of the treatment, Johanna's mother was instructed to place the SIBIS stimulus module on Johanna's leg contingent on SIB, that is whenever she first hit her head against a surface or an object. Johanna's mother was instructed to precede all electrical stimulations by the verbal prompt 'No hit Johanna' and to repeat this sentence to bridge the delay between head banging and application of SIBIS. She was also asked to keep SIBIS in her purse so she could reliably perform and repeat the same behavioral sequence to get SIBIS out and ready for use even when not at home.

On the no device day (day 5), Johanna's mother was provided with a 3 h training session on SIB (i.e. nature, causes, triggering factors, functions), which also included teaching of (i) differential reinforcement of Johanna's appropriate behaviors such as asking for help, independent play, and showing a sad face when upset; (ii) attending skills; and (iii) appropriate use of extinction.

During the three days of implementation, two or three observers were present for 3 h daily. The observers and Johanna's mother, independently counted head hits. The authors' observations concurred with the mother's observations that SIB was systematically occurring in response to being told 'no', and when Johanna was upset regardless of the triggering event. These sessions were also videotaped. Reliability observations conducted during these three sessions were performed during the entire 3 h. Comparison of observer's records from these observations yield no instances of disagreement. Observation agreement with Johanna's mother ranged from 80 to 100%, with a mean of 95%. This procedure was used in order to insure that her observations were reliable for the rest of the treatment. It is important to note that Johanna's mother was actually more accurate than the observers in recording target behaviors, probably because of her long-lasting experience with subtle instances of SIB.

Johanna's mother was contacted daily for the first 30 days of treatment and weekly for the following 30 days. Sixty days after the initial implementation, SIBIS was removed from the home, since the device had not been used for 34 days. Also, on the



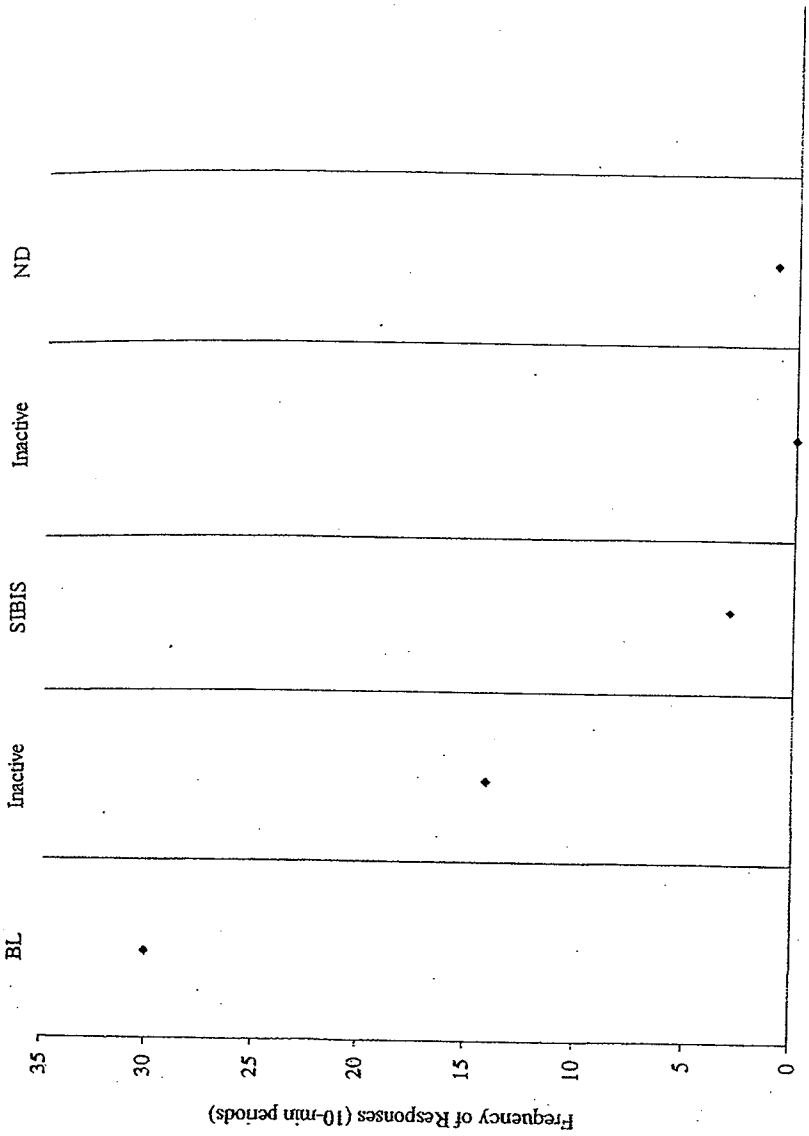


Figure 1. Head bangs exhibited by Johanna during the experimental evaluation (phase 1).

rare instances of SIB, or topographically similar behaviors (i.e. gentle contact between forehead and object), the prompt and movement towards the purse (where SIBIS had been kept) were sufficient to instantly stop the behavior and to trigger a response similar to that elicited by SIBIS. After removal of SIBIS, Johanna's mother was contacted monthly for five months post-treatment. A formal follow-up observation session was conducted at home 7 months after the initial implementation of SIBIS.

RESULTS

Phase I: Experimental Evaluation

Johanna's mother reported that head hitting had occurred 109 times the day prior to the experimental evaluation, which was described as 'low' compared with the average day. During the experimental evaluation, Johanna's mother was asked to simulate typical playtime with Johanna, and each condition was implemented for 10 minutes. As shown in Figure 1, head hitting occurred 30 times during the baseline condition. Head banging systematically occurred in response to being told 'no', being denied access to a toy, or when the toy was taken away from her. These observations agreed with the report of Johanna's mother. During the SIBIS-inactive condition, rate of head hitting decreased to 14 responses. Further decreases in head hitting were observed following the introduction of SIBIS. Head hitting occurred three times during the first SIBIS trial and zero times (SIBIS inactive), once (no device) and once (SIBIS active) during the following trials. While Johanna initiated head hitting motions during the latter conditions, she stopped each response before actually contacting a surface. Johanna hit her head 46 times throughout the experimental evaluation session. During SIBIS trials, an electrical stimulation was delivered contingently on the first occurrence of SIB, for a total of four stimulations delivered contingently. The rate obtained during the SIBIS condition represents a 90% reduction over baseline.

Phase II: Implementation at Home

Figure 2 shows Johanna's daily rate of head hitting during the home implementation stage. Mean rate of head hitting during the baseline condition was 117 responses per day (109, 141, and 102 responses on each of the three days, respectively). Rate of head hitting declined to 35 responses on day 1 of the SIBIS-active condition in the home, and 62 responses were observed on day 2, which was a no device day. On day 3, SIBIS was reintroduced, and a zero-level response was reached by day 6 (range 0–14). A zero-level response rate was sustained for the subsequent days, with the exception of days 12, 14, 16, and 26, in which one, one,

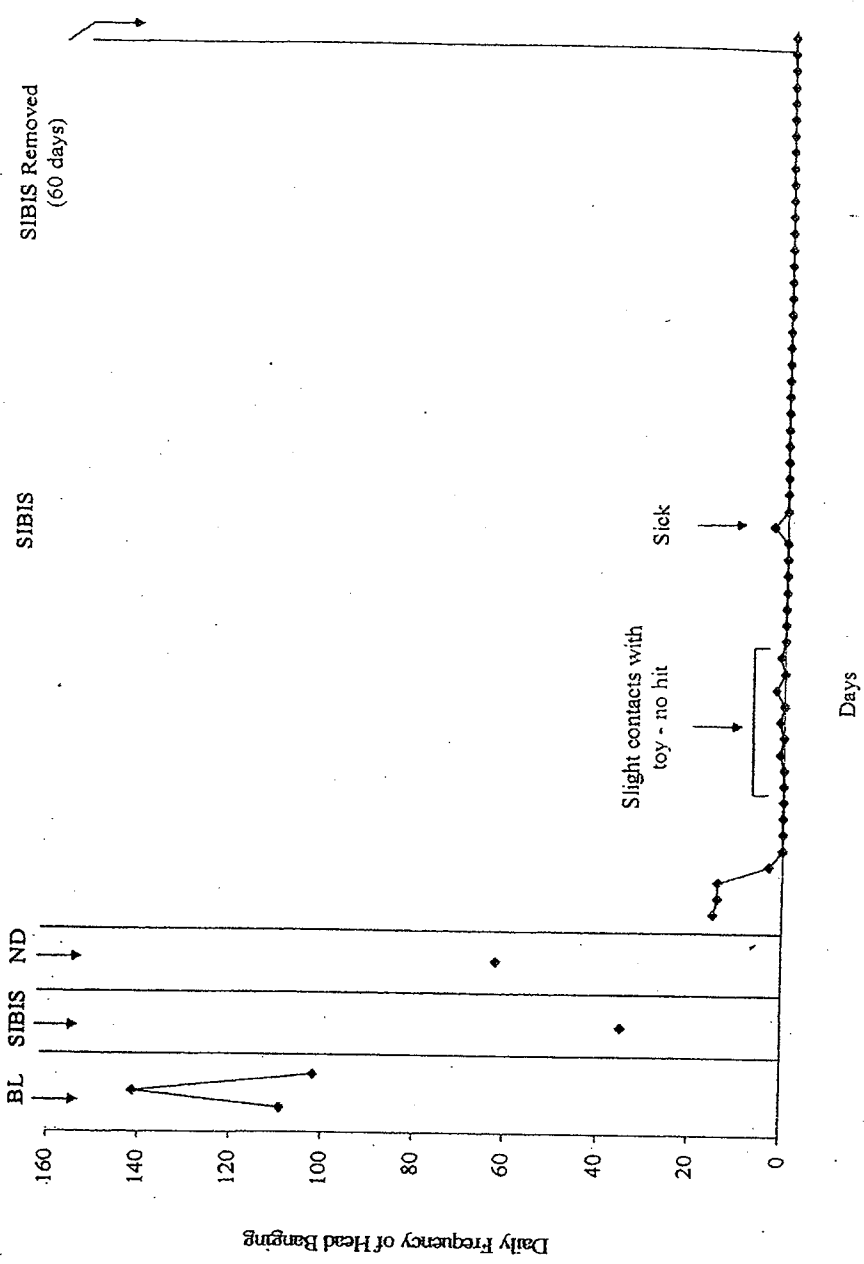


Figure 2. Head bangs exhibited by Johanna during the treatment at home (phase II).

two, and three responses were observed, respectively. On these days, Johanna reportedly exhibited slight touching of forehead to play objects and the mother's verbal warning 'No hit, Johanna' paired with her movement towards the purse where SIBIS was kept were sufficient to prevent further head hitting. Following 34 days of consistent zero-level response, SIBIS was removed from the home.

Johanna's mother was contacted monthly for the following 3 months. One month following SIBIS removal, Johanna's mother reported that while Johanna occasionally 'touched objects slightly' to her forehead when upset, a verbal warning was sufficient to prevent an actual head hitting response. Therefore, no head hitting responses were observed during this time. At two and three months following SIBIS removal, Johanna's mother reported that Johanna no longer engaged in any semblance of head hitting responses, and she was getting 'upset' less frequently and to a lesser degree over time. Johanna had also reportedly become better at displaying a 'sad face' when upset.

Follow-Up

Seven months after the initial implementation, a 120 min period of observation was conducted at home. According to her mother's report, Johanna was not attempting to bang her head any more, even when she was upset. Johanna's mother recounted that since SIBIS was removed her daughter had rarely hit her head, and even in these instances the topography was markedly different, as Johanna was not 'hitting' her head but was slightly touching or stroking the surface/object against her forehead. Furthermore, the prompt ('no hit Johanna') and the behavioral sequence (moving towards her purse where SIBIS was previously hidden) were sufficient to terminate this behavior. When visited at home for follow-up, Johanna was sick and extremely irritable, an establishing operation that had been previously tightly linked to the occurrence of head banging. Nevertheless, even though Johanna cried and displayed negative affect during the entire 120 min period, she made not one attempt to head bang. The absence of bruising on her forehead was also a notable positive outcome at follow-up, and this was a further indication of the validity of the mother's report that the head banging no longer occurred.

DISCUSSION

Results obtained in the present case study indicated that brief and mild electric stimulation produced rapid, large, and durable[2] decreases in severe SIB. These results are consistent with previous studies and reviews of the literature (Lichstein &

[2]The patient's mother has been contacted since the submission of this article (i.e. 1 year after the initial implementation of SIBIS), and she reported that SIB was still absent.

Schreibman, 1976; Linscheid, 1993; Linscheid & Cunningham, 1977; Linscheid et al., 1993, 1990; Linscheid & Meinhold, 1990; Linscheid & Reichenbach, 2002; Newsom, Favell, & Rincover, 1983). Nonetheless, the fact that the procedure was so rapidly effective in this particular case is worth mentioning. It is possible that the client's young age and relatively short history of SIB contributed to the substantial effectiveness of the intervention. As we have seen, in the case of Johanna SIB quickly increased in frequency and generalized to several situations. It is reasonable to speculate that if left untreated Johanna's SIB would have worsened over time and become more resistant to interventions.

Close and extended monitoring during and after treatment failed to reveal the presence of negative side effects associated with SIBIS, whereas a number of positive effects were observed. With respect to response generalization, Johanna appeared to be less distressed when upset, most likely because she no longer additionally hurt herself when she was upset. She simultaneously started to be more responsive to reinforcement contingencies, and she began to exhibit a number of positive behaviors reinforced by her mother, such as showing a sad face to communicate she was upset, playing independently, and requesting help. A unique feature of this particular SIBIS case study is that programmed and systematic effort at establishing conditioned punishment was included in the intervention. Continuous assessment after treatment and formal observation session at 7 months follow-up revealed that SIBIS could be removed from the natural environment of the child while maintaining a therapeutic effect. These results were interpreted as the effects of the explicit pairing between the delivery of electric stimulations and previously neutral stimuli (i.e. the verbal prompt and the movement towards the purse), which were initially ineffective in suppressing SIB. This being said, the effectiveness of the 'no hit Johanna + movement toward the purse' was not systematically assessed prior to the introduction of SIBIS, so it is not possible to conclude unequivocally that these stimuli were 'neutral'. On the other hand, the fact that the verbal prompt was Johanna's mother most reliable response to SIB before SIBIS intervention seems to indicate that the pairing with SIBIS was necessary for these stimuli to acquire punishing properties.

In the present case, the prompt–behavioral sequence antecedent to SIBIS stimulation was interpreted (or classified) as a conditioned punisher. Alternatively, this antecedent event could have acted as a discriminative stimulus (Sd) signaling the occurrence of SIBIS. However, the resulting effect of an Sd signaling punishment is to increase the occurrence of a particular behavior reinforced by negative reinforcement (i.e. avoidance of the punishing consequence). Therefore, if the behavioral sequence actually acted as an Sd, its benefits on treatment maintenance were indirect, consisting mainly in increasing alternative responses (e.g. showing a sad face). On the other hand, if the Sd suppressed SIB and elicited a response similar to the one produced by the primary punisher, then it is clear that discriminative

stimuli operated in a manner similar to a conditioned punisher, at least in this particular case. Although the data gathered here do not permit a definite conclusion as to whether these stimuli acted as a conditioned punisher or an Sd, we are tempted to speculate that both processes functioned simultaneously. On some occasions, Johanna's mother performed the sequence when Johanna was *about to* head bang (i.e. before she actually did so), and as a result the child abstained from hitting her head. We actually witnessed instances where Johanna refrained from head banging contingently on the prompt. In these cases, Johanna started the motion, stayed still a few inches above the floor for a few seconds, stared at her mother and then engaged in another activity.

It can be argued that our failure to obtain immediate (phase I) or complete (phase II) reversals suggests that some generalization may have occurred without the utilization of the conditioned punishment or systematic intervention for stimulus fading. However, continuation of the ND condition following the experimental evaluation (i.e. 3 days of baseline before the implementation at home) was associated with recovery of baseline levels of SIB in the natural environment. Therefore, the stable and enduring maintenance of treatment effects after discontinuation is more likely to be explained by the acquired punishing properties of the neutral events paired with SIBIS.

SIBIS was not designed to be used in isolation from other procedures. The device should be used within the context of a comprehensive program that includes positive reinforcement for establishing and strengthening alternative behaviors. The intervention reported here involved such positive components, thus it does not permit conclusions about the effects of SIBIS alone. Nevertheless, in the present case, SIBIS was implemented because positive interventions were demonstrated to be ineffective when used alone. We do not suggest that the only active ingredient was SIBIS, but that suppression of SIB might have served as an establishing operation to enhance the effectiveness of positive alternative interventions. Our findings are consistent with previous studies in indicating that positive side effects generally outnumber potential negative effects, and that SIBIS can sometimes be necessary, although not sufficient, to eliminate severe and harmful SIB in the natural environment. This study may also suggest that early intervention with an aversive conditioning program may actually negate the need for longer term aversive interventions if SIB becomes more firmly established during periods of no treatment or less aversive but ineffective treatment.

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REFERENCE

Axelrod, S., & Apsche, J
Dura, J. R. (1991). Contr
Psychological Reports
Favell, J. E., Azrin, N. H.,
Lovaas, O. I., Rincov
Solnick, J. V. (1982)
554.
Guess, D., Helmstetter, E
persons who are disab
for Persons with Sever
Iwata, B. A. (1988). Th
Analyst, 11, 149–157.
Lerman, D. C., & Vo
ment: Implications f
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Lichstein, K. L., & Schre
side effects. *Journal o*
Linscheid, T. R. (1993).
System: A personal p
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Linscheid, T. R., & Cu
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Linscheid, T. R., Hartel, I
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Linscheid, T. R., Pejeau,
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Developmental Disab
Matson, J. L., & DiLor
behavior modification
Meinhold, P. M., & M
behavior disorders: I
585–603.

REFERENCES

Axelrod, S., & Apsche, J. (1983). *The effects of punishment on human behavior*. New York: Academic.

Dura, J. R. (1991). Controlling extremely dangerous aggressive outbursts when functional analysis fails. *Psychological Reports, 69*, 451–459.

Favell, J. E., Azrin, N. H., Baumeister, A. A., Carr, E. G., Dorsey, M. F., Forehand, R., Foxx, R. M., Lovaas, O. I., Rincover, A., Risley, T. R., Romanczyk, R. G., Russo, D. C., Schroeder, S. R., & Solnick, J. V. (1982). The treatment of self-injurious behavior. *Behavior Therapy, 13*, 529–554.

Guess, D., Helmstetter, E., Turnbull, H. R., III, & Knowlton, S. (1987). *Use of aversive procedures with persons who are disabled: An historical review and critical analysis*. Seattle, WA: The Association for Persons with Severe Handicaps.

Iwata, B. A. (1988). The development and adoption of controversial default technologies. *Behavior Analyst, 11*, 149–157.

Lerman, D. C., & Vorndran, C. M. (2002). On the status of knowledge for using punishment: Implications for treating behavior disorders. *Journal of Applied Behavior Analysis, 35*, 431–464.

Lichstein, K. L., & Schreibman, L. (1976). Employing electric shock with autistic children: A review of side effects. *Journal of Autism and Childhood Schizophrenia, 6*, 163–173.

Linscheid, T. R. (1993). The development and evaluation of the Self-Injurious Behavior Inhibiting System: A personal perspective. In R. Van Houten, & S. Axelrod (Eds.), *Behavior analysis and treatment: Applied clinical psychology* (pp. 345–365). New York: Plenum.

Linscheid, T. R., & Cunningham, C. E. (1977). A controlled demonstration of the effectiveness of electric shock in the elimination of chronic infant rumination. *Journal of Applied Behavior Analysis, 10*, 500.

Linscheid, T. R., Hartel, F., & Cooley, N. (1993). Are aversive procedures durable? A five year follow-up of three individuals treated with contingent electric shock. *Child and Adolescent Mental Health Care, 3* (Special Issue: Aversives: II), 67–76.

Linscheid, T. R., Iwata, B. A., Ricketts, R. W., Williams, D. E., & Griffin, J. C. (1990). Clinical evaluation of the self-injurious behavior inhibiting system (SIBIS). *Journal of Applied Behavior Analysis, 23*, 53–78.

Linscheid, T. R., & Meinhold, P. (1990). The controversy over aversives: Basic operant research and the side effects of punishment. In A. C. Repp, & N. N. Singh (Eds.), *Perspectives on the use of nonaversive and aversive interventions for persons with developmental disabilities* (pp. 435–450). Sycamore, IL: Sycamore Publishing Company.

Linscheid, T. R., Pejeau, C., Cohen, S., & Footo-Lenz, M. (1994). Positive side effects in the treatment of SIB using the Self-Injurious Behavior Inhibiting System (SIBIS): Implications for operant and biochemical explanations of SIB. *Research in Developmental Disabilities, 15*, 81–90.

Linscheid, T. R., & Reichenbach, H. (2002). Multiple factors in the long-term effectiveness of contingent electric shock treatment for self-injurious behavior: A case example. *Research in Developmental Disabilities, 23*, 161–177.

Matson, J. L., & DiLorenzo, T. M. (1984). *Punishment and its alternatives: New perspectives for behavior modification*. New York: Springer.

Meinhold, P. M., & Mulick, J. A. (1992). Social policy and science in the treatment of severe behavior disorders: Defining and securing a healthy relationship. *Clinical Psychology Review, 12*, 585–603.

EXHIBIT 10

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Side effects of contingent shock treatment

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Abstract

In this study, the side effects of contingent shock (CS) treatment were addressed with a group of nine individuals, who showed severe forms of self-injurious behavior (SIB) and aggressive behavior. Side effects were assigned to one of the following four behavior categories; (a) positive verbal and nonverbal utterances, (b) negative verbal and nonverbal utterances, (c) socially appropriate behaviors, and (d) time off work. When treatment was compared to baseline measures, results showed that with all behavior categories, individuals either significantly improved, or did not show any change. Negative side effects failed to be found in this study.

Keywords: Contingent shock; Side effects; Collateral behavior; Punishment

Severe problem behaviors (e.g., self-injurious behavior [SIB] and aggressive behavior) can threat students' and staff members' health and well-being. Several $n = 1$, some $n > 1$ studies (Duker & Seys, 1996, 2000; Linscheid & Reichenbach, 2002; Ricketts, Goza, & Matese, 1992, 1993; Williams, Kirkpatrick-Sanchez, & Crocker, 1994), and meta-analyses (e.g., Didden, Duker, & Korzilius, 1997; Scotti, Evans, Meyer, & Walker, 1991) have demonstrated the superiority of contingent shock (CS) over other behavioral and nonbehavioral procedures (e.g., nonaversive procedures, pharmacology) in decelerating severe problem behaviors. In spite of these results, CS is often criticized in that it induces a number of negative side effects including increases in aggression, escape behavior, and negative emotional responses (for a review, see Lerman & Vorndran, 2002).

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Although several studies have mentioned the side effects of CS, few have systematically investigated these effects. Generally, it is reported that the positive side effects outnumber the negative side effects. For example, Matson and Taras (1989) reviewed 56 applied studies and reported that 96% of the side effects were positive (i.e., increased social behavior, increased activity levels, increased eye contact). Ball, Sibbach, Jones, Steele, and Frazier (1975) reported that individuals who were treated with CS became more affectionate and socially responsive. Mudford, Boundy, and Murray (1995) found their participants to be calmer, happier, and less clingy to people during treatment, as compared to baseline. Ricketts et al. (1992, 1993) reported that participants more often smiled and emitted happy vocalizations during CS treatment than during baseline. Also, distressed vocalizations (e.g., crying, whining) decreased during CS treatment. Linscheid, Pejeau, Cohen, and Footo-Lenz (1994) and Linscheid and Reichenbach (2002) found an increase of behaviors that may indicate a positive affective state (e.g., laughing, smiling, self-initiated toy play) during CS treatment, as compared to baseline. Negative side effects (e.g., increase of crying and whining) of CS failed to be mentioned in any study. Duker and Van den Munckhof (2007) demonstrated with five individuals who were treated with CS, that wearing a CS device lowered their heart rate, probably indicating lowered stress levels.

In this study, we addressed the side effects of CS treatment with a group of nine individuals who showed severe forms of SIB and aggressive behavior. Data were collected using a nonconcurrent, quasi-multiple baseline design across participants (Watson & Workman, 1981). Results were analysed using visual analyses conducted by seven clinicians.

1. Participants and setting

Participants were nine students (i.e., five boys and four girls) of the Judge Rotenberg Educational Center (JRC) in Canton, MA. Participants' chronological ages ranged from 8 to 30 years (M = 16.2, S.D. = 5.5) at the start of the study. All of them showed high frequencies and severe forms of SIB and aggressive behavior. Functional assessments were conducted to assess which factors might cause or maintain participants' target behaviors, revealing that the behaviors were either multiply controlled or controlled by unknown causes. Physicians had excluded medical causes of the target behaviors.

Each participant was consulted by a psychiatrist to assess his or her diagnosis. Preference assessment was conducted with all participants. Reinforcement procedures (e.g., differential reinforcement of other behaviors, differential reinforcement of alternative behaviors), and aversive procedures (e.g., token fines and reprimands) had failed to decelerate the participants' problem behaviors. Pharmacological treatments (e.g., antipsychotics, antidepressants) had been tried unsuccessfully in programs the participants attended prior to coming to JRC. Participants lived in JRC-staffed residential homes and attended JRC's day school program. Informed consent for the use of CS with the participants was obtained from their parent(s) or guardian(s). All treatment teams overseeing a participant's treatment program were headed by a doctoral level clinician who was responsible for writing a plan that listed specifically which behaviors would be treated with CS. In addition, JRC sought and obtained permission from the Bristol County, MA Probate Court for each participant involved to use CS to decrease their problem behaviors. Four participants received one-to-one coverage 24 hrs/day, two participants received coverage 16 h/day, and the other participants were treated on a one-to-three basis. For demographical information, see Table 1.

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Table 1
Demographic information

Participant	Gender	Age	IQ/mental age	Diagnosis	Medication
1. S.S.	F	13;0	Moderate	Autism	–
2. T.F.	M	12;1	88	ADHD; ODD; IED	–
3. G.B.	M	15;11	81	Depressive disorder NOS; IED	–
4. A.J.	F	19;9	Full scale-80	Bipolar disorder; PTSD	–
5. T.E.	F	23;2	Mild	IED	–
6. E.L.	M	19;2	Full scale-75	Mood disorder NOS	–
7. K.F.	M	11;1	Mild	ODD	–
8. B.S.	M	18;4	Severe	PDD	–
9. R.S.	F	13;9	Severe	Autism	–

Note. M: male; F: female; age in years and months; ADHD: attention deficit hyperactivity disorder; ODD: oppositional defiant disorder; IED: intermittent explosive disorder; PTSD: post traumatic stress disorder; PDD: pervasive developmental disorder.

2. Device

Skin shocks were administered using the graduated electronic decelerator (GED) which is manufactured by JRC, consists of: (a) a remote control transmitter, which transmits an uniquely coded RF signal; (b) a receiver/stimulator, which receives a coded signal from the transmitter and generates a skin shock; (c) a battery pack; and (d) a set of electrodes, which are attached to participant's skin. Electrodes were either concentric (i.e., Tursky electrodes) or spread with two button electrodes separated by up to 6 in. One type of devices was used: the GED-1, which delivers a 2 s DC shock with a mean current of 15.5 mA (peak 30 mA), a voltage of 60 V, at a measured skin resistance of 4 $k\Omega/cm^2$. Devices generate a square wave at 83 pulses per second (pps). Depending upon the severity of the individual's problem behaviors, each participant wore one to five sets of electrodes at the same time, with the shock being delivered to only one of the set of electrodes as a consequence for a particular behavior.

3. Response definitions

Four mutually exclusive categories of target behaviors were defined: (a) positive verbal and nonverbal utterances (PVNU), such as appropriate smiling, dancing, singing or talking (e.g., "I am so happy," "Oh, yes!"); (b) negative verbal and nonverbal utterances (NVNU), such as crying, making whining noises, spitting, stamping feet, smearing faeces, screaming, swearing, making obscene gestures, shrugging shoulders, uttering racial comments, making negative facial expressions (e.g., rolling eyes), and imitating others; (c) socially appropriate behaviors (SAB), such as raising one's hand in the classroom, greeting others, politely asking the teacher for help, following directions, and appropriately responding to the teachers' and staff members' instructions; and (d) off task (OT) behaviors, such as placing one's head down on the table, rejecting academic tasks, and turning one's head away when a staff member offers beverages or edibles. Target behaviors were selected by interviewing participants' teachers and staff members, record reviews, and direct observation.

4. Recording

During baseline and treatment, participants were videotaped for 10 min, 5 days per week. Participants were videotaped at randomly chosen points in time, but always during times when

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teachers and staff members were not applying reinforcing contingencies. Using a 10-s partial interval recording system, observers assigned each target behavior to one of the above four behavior categories. All target behaviors that occurred during videotaping were assigned to a category, even when behaviors occurred simultaneously. The number of video-taped 10-min sessions for the participants across phases of baseline and treatment ranged from 24 to 51 ($M = 30.22$, $S.D. = 8.15$).

5. Reliability of recording

Interrater agreement between two observers, one of whom was kept naive as to the purpose of the study, was conducted in 26% of the recording sessions, which were approximately equally distributed across baseline and treatment phases. Agreement was calculated by dividing the number of agreements by the number of agreements plus disagreements, multiplied by 100. Interrater reliability ranged from 93.48 to 97.76% ($M = 95.48$, $S.D. = 1.85$). Percentages were then converted into a kappa coefficient (Cohen, 1960), a statistic that takes chance agreement into account. Kappa scores ranged from .92 to .97 ($M = .94$, $S.D. = .19$).

6. Procedure

6.1. Baseline

During baseline, CS treatment was withheld. During this phase, (a) differential reinforcement of other behaviors with intervals ranging from 5 min to 7 days, (b) a token system for completing academic tasks and/or for intervals of appropriate behavior, and (c) a response cost system were in effect. Moreover, mild aversive procedures and response contingent restraints were in effect. Duration of mechanical (e.g., mitts, restraint chair) or physical restraint (i.e., holding arms, legs, and upper part of the body) could extend up to 6 h, depending upon whether participant's problem behaviors recurred during the restraint. The above procedures were carried out on a 365 days per year, 24 h per day basis, and were administered in all of each participant's settings (i.e., in the classroom, during transportation, and in the residential home).

6.2. Treatment

While the above procedures continued, SIB and aggressive behavior were immediately followed by a single administration of an electrical skin shock. Following this, the staff member or teacher involved would inform the participant verbally and briefly why the shock had been administered. Then, if necessary, the participant was prompted to continue his/her task. Finally, the staff member rotated the electrodes a few centimeters away from their previous locations on participant's body and recorded the time of shock administration.

7. Design

Data were collected using a nonconcurrent quasi-multiple baseline design across participants (Watson & Workman, 1981), in which the length of the baseline phase was determined on a random basis. For each participant, the date at which the treatment phase began was determined by the date at which JRC happened to obtain court approval for skin-shock treatment for that participant.

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8. Results

Table 2 shows *M*, S.D., and range of participants' PVNU, NVNU, SAP, and OT percentages during baseline and treatment. Figs. 1–4 display in graphical form the percentages of these behaviors per 10-s interval for all participants. Graphs are ordered per

Table 2
Means, ranges, and standard deviations of PVNU, NVNU, SAB, and OT percentages for 10-min intervals during baseline and treatment

Participant	Baseline				Treatment			
	No. of intervals	*M*	Range	S.D.	No. of intervals	*M*	Range	S.D.
PNVU								
S.S.	3	1.01	0.00–3.03	1.75	45	7.81	0.00–55.00	13.73
T.F.	7	7.29	0.00–20.00	6.74	19	5.2	0.00–24.14	6.75
G.B	11	2.89	0.00–26.67	7.93	17	1.96	0.00–28.57	6.89
A.J.	4	15.68	6.00–31.67	11.12	22	4.67	0.00–26.67	2.87
T.E.	10	5.97	0.00–15.00	4.61	20	2.98	0.00–10.17	3.46
E.L.	5	1.38	0.00–3.70	1.52	22	1.97	0.00–29.41	6.23
K.F.	5	4.84	1.69–11.11	3.69	17	5.9	0.00–17.50	5.85
B.S.	11	4.00	0.00–11.59	3.88	30	13.66	0.00–43.33	14.16
R.S.	14	8.25	0.00–27.12	8.04	11	11.15	0.00–33.33	9.56
NVNU								
S.S.	3	31.6	1.61–56.82	27.91	45	13.70	0.00–95.59	20.30
T.F.	7	9.00	0.00–36.67	13.28	19	0.79	0.00–3.33	1.16
G.B	11	1.70	0.00–15.25	4.55	17	0.52	0.00–7.14	1.75
A.J.	4	6.59	0.00–18.00	8.12	22	2.19	0.00–8.33	2.76
T.E.	10	0.51	0.00–3.39	1.15	20	0.38	0.00–4.00	1.02
E.L.	5	0.67	0.00–3.33	1.49	22	0.00	0.00–0.00	0.00
K.F.	5	17.04	0.00–41.30	15.58	17	4.60	0.00–20.00	5.95
B.S.	11	0.45	0.00–3.33	1.08	20	0.17	0.00–1.67	0.51
R.S.	14	13.95	0.00–32.76	12.68	11	3.33	0.00–12.67	4.35
SAB								
T.F.	7	2.60	1.39–5.00	1.39	19	0.78	0.00–20.00	6.74
G.B	11	1.70	0.00–15.25	4.55	17	4.75	0.00–25.93	7.16
A.J.	4	1.00	0.00–4.00	2.00	22	2.19	0.00–8.33	2.76
T.E.	10	0.00	0.00–0.00	0.00	20	0.13	0.00–2.50	0.56
E.L.	5	2.94	0.00–6.67	2.65	22	3.87	0.00–25.00	7.20
K.F.	5	2.36	0.00–6.78	2.84	17	8.81	0.00–20.93	7.47
B.S.	11	0.15	0.00–1.67	0.50	20	0.00	0.00–0.00	0.00
R.S.	14	27.20	3.39–47.37	12.61	11	11.54	0.00–26.51	9.53
OT								
S.S.	3	41.82	30.30–50.00	10.27	45	7.47	0.00–71.67	16.90
T.F.	7	43.61	19.05–76.67	22.18	19	13.59	1.67–35.48	8.34
G.B	7	67.52	0.00–100.00	40.00	17	6.38	0.00–44.62	11.05
A.J.	4	92.06	84.75–100.00	6.37	22	29.55	1.59–100.00	23.77
T.E.	10	3.37	0.00–10.00	3.56	20	2.47	0.00–12.00	3.04
E.L.	5	8.40	1.82–17.02	5.50	22	2.94	0.00–24.13	5.30
K.F.	5	59.90	46.15–84.75	16.71	16	34.99	6.00–83.87	23.14
B.S.	11	31.55	7.14–48.15	11.06	20	21.69	1.67–50.00	15.43
R.S.	14	27.20	3.39–47.37	12.61	11	11.54	0.00–26.51	9.53

Note. *M* = mean; S.D. = standard deviation.

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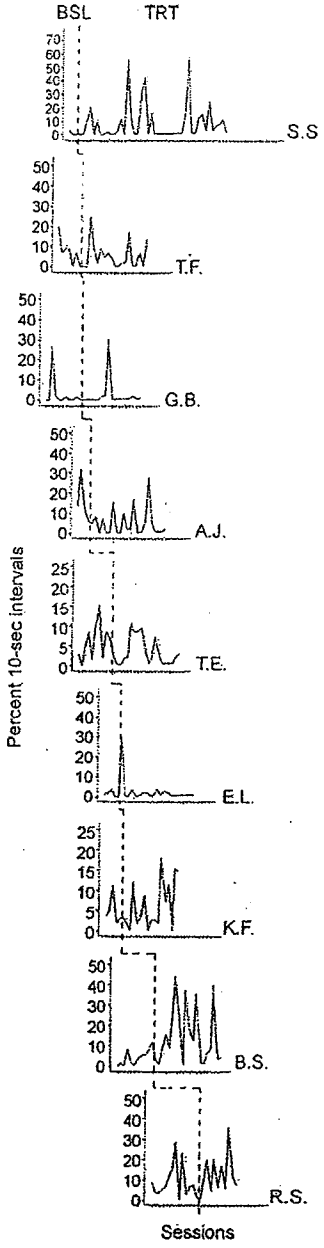

Fig. 1. Percentage PNVU per 10-s intervals during baseline and treatment sessions.

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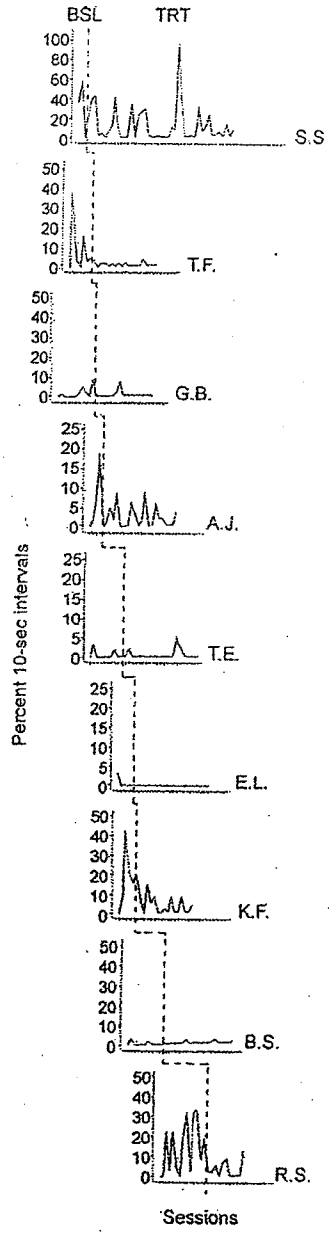

Fig. 2. Percentage NVNU per 10-s intervals during baseline and treatment sessions.

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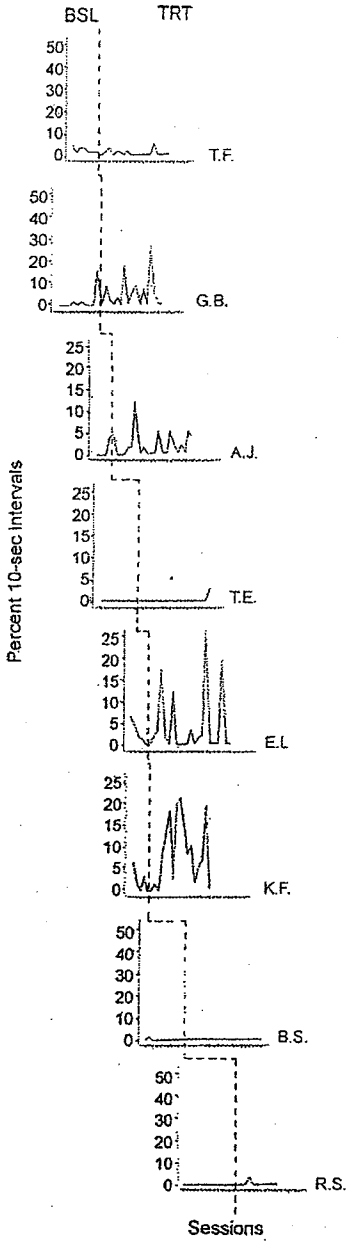

Fig. 3. Percentage SAB per 10-s intervals during baseline and treatment sessions.

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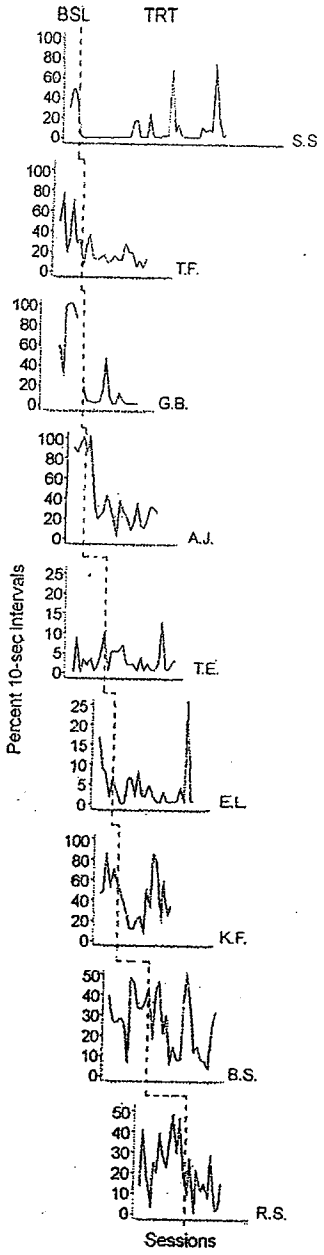

Fig. 4. Percentage OT per 10-s intervals during baseline and treatment sessions.

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behavior category and portray the character of the multiple baseline design in which the data were collected.

Data were examined on an individual basis, using visual analysis. Seven clinicians independently judged, for each graph in Figs. 1–4, whether there was a significant change or not in percentages between baseline and treatment phase. For all PVNU graphs, a mean agreement of 78% across clinicians was obtained. Participant B.S. significantly increased (100% agreement) the percentage of intervals of PVNU, when treatment phase was compared to baseline phase. No changes were recorded for the other participants. For all NVNU graphs, a mean agreement of 92% across clinicians was obtained. Participants T.F. (100% agreement), A.J. (71% agreement), K.F. (100% agreement), and R.S. (100% agreement) significantly decreased the percentage of intervals of NVNU, when treatment phase was compared to baseline. No changes were recorded for the other participants. For all SAB graphs, a mean agreement of 91% across clinicians was obtained. Participants G.B. (71% agreement), E.L. (100% agreement), and K.F. (100% agreement) significantly increased the percentage of intervals of SAB, when treatment phase was compared to baseline phase. No changes were recorded for the other participants. For all OT graphs, a mean agreement of 89% across clinicians was obtained. Participants T.F. (86% agreement), G.B. (100% agreement), A.J. (100% agreement), and R.S. (86% agreement) significantly decreased the percentage of intervals of OT, when treatment phase was compared to baseline phase. No changes were recorded for the other participants.

9. Discussion

In this study, we addressed the occurrence of potential side effects of CS treatment with a group of nine participants, who showed severe forms of SIB and aggressive behavior. In all behavior categories (i.e., PVNU, NVNU, SAB, and OT) participants either significantly improved, or did not show any change, when the treatment phase was compared to baseline. Negative side effects were not observed. These results are supported by findings of Ball et al. (1975), Linscheid et al. (1994), Linscheid and Reichenbach (2002), Mudford et al. (1995), and Ricketts et al. (1992, 1993).

Some limitations may affect the conclusions of this study. First, no statistical analysis was conducted, due to the short baselines employed with some of the participants. Some forms of SIB and aggressive behavior of these participants were of such severity, that CS treatment had to be initiated immediately following court permission. With pre-determined baseline lengths, reactive intervention as a possible invalidating factor would have been controlled. As an alternative, visual analysis was conducted by seven clinicians, whose agreement ranged from 57 to 100%.

Second, analyses failed to be conducted at the group level across behavior categories, because the four categories of behavior were not applicable in the same degree to all participants. For example, participant S.S. was a girl with severe mental retardation, and who, by definition, failed to show any form of SAB. Participant E.L., who was a man with normal intelligence, hardly showed any form PVNU during his academic work, because he was working on his tasks with steady concentration most of the time. These observations suggest that if side effects are present during CS treatment, the specific forms may differ across individuals.

Third, participants may have been aware of the video recording, which may, therefore, have caused bias in data collection. However, participants were naïve as to the purpose of the study. In addition, the participants were used to being video-recorded, because all students and staff members were routinely monitored by video cameras in school and residential houses 24 h per day.

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The objection that CS should not be used due to associated negative side effects, fails to be inconsistent with the results of this study. By contrast, according to previous research, the present study demonstrates that positive side effects are probably more common than negative side effects.

References

Ball, T. S., Sibbach, L., Jones, R., Steele, B., & Frazier, L. (1975). An accelerometer-activated device to control assaultive and self-destructive behaviors in retardates. *Journal of Behavior Therapy and Experimental Psychiatry, 6*, 223–228.

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement, 20*, 37–46.

Didden, R., Duker, P. C., & Korzilius, H. (1997). Meta-analytic study on treatment effectiveness for problem behaviors with individuals who have mental retardation. *American Journal on Mental Retardation, 101*, 387–399.

Duker, P. C., & Seys, D. M. (1996). Long-term use of electrical aversion treatment with self-injurious behavior. *Research in Developmental Disabilities, 17*, 293–301.

Duker, P. C., & Seys, D. M. (2000). A quasi-experimental study on the effect of electrical aversion treatment on imposed mechanical restraint for severe self-injurious behavior. *Research in Developmental Disabilities, 21*, 235–242.

Duker, P. C., & Van den Munckhof, M. (2007). Heart rate and the role of the active receiver during contingent electric shock for severe self-injurious behavior. *Research in Developmental Disabilities, 28*, 43–49.

Lerman, D. C., & Vorndran, C. M. (2002). On the status of knowledge for using punishment: Implications for treating behavior disorders. *Journal of Applied Behavior Analysis, 35*, 431–464.

Linscheid, T. R., Pejeau, C., Cohen, S., & Footo-Lenz, M. (1994). Positive side effects in the treatment of SIB using the self-injurious behavior inhibiting system (SIBIS): Implications for operant and biochemical explanations of SIB. *Research in Developmental Disabilities, 15*, 81–90.

Linscheid, T. R., & Reichenbach, H. (2002). Multiple factors in the long-term effectiveness of contingent electric shock treatment for self-injurious behavior: A case example. *Research in Developmental Disabilities, 23*, 161–177.

Matson, J. L., & Taras, M. E. (1989). E 20 year review of punishment and alternative methods to treat problem behaviors in developmentally delayed persons. *Research in Developmental Disabilities, 10*, 85–104.

Mudford, O. C., Boundy, K., & Murray, A. D. (1995). Therapeutic shock device (TSD): Clinical evaluation with self-injurious behaviors. *Research in Developmental Disabilities, 16*, 253–267.

Ricketts, R. W., Goza, A. B., & Matese, M. (1992). Case study: Effects of naltrexone and SIBIS on self-injury. *Behavioral Residential Treatment, 7*, 315–326.

Ricketts, R. W., Goza, A. B., & Matese, M. (1993). A 4-year follow-up of treatment of self-injury. *Journal of Behavior Therapy and Experimental Psychiatry, 24*, 57–62.

Scotti, J. R., Evans, I. M., Meyer, L. H., & Walker, P. (1991). A meta-analysis of intervention research with problem behavior: Treatment validity and standards of practice. *American Journal on Mental Retardation, 96*, 233–256.

Watson, P. J., & Workman, E. A. (1981). The non-concurrent multiple baseline across-individuals design: An extension of the traditional multiple baseline design. *Journal of Behavior Therapy and Experimental Psychiatry, 12*, 257–259.

Williams, D. E., Kirkpatrick-Sanchez, S., & Crocker, W. T. (1994). A long-term follow-up treatment for severe self-injury. *Research in Developmental Disabilities, 15*, 487–501.

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EXHIBIT 11

Notice of Emergency Adoption and Proposed Rule Making

EDUCATION DEPARTMENT
(SUBMITTING AGENCY)

TEXT/SUBSTANCE AND ATTACHMENTS SUBMITTED: ☐E-MAIL (nysregister@dos.state.ny.us)
☑DISK

NOTE: Typing and submission instructions are at the end of this form. Please be sure to COMPLETE ALL ITEMS. Incomplete forms and nonscannable text attachments will be cause for rejection of this notice.

1. *Action taken:*
Amendment of section 19.5 of the Rules of the Board of Regents and sections 200.1, 200.4 and 200.7 of the Regulations of the Commissioner of Education, and promulgation of section 200.22 of the Regulations of the Commissioner of Education (8 NYCRR sections 19.5, 200.1, 200.4, 200.7 and 200.22)

2. *Effective date of emergency rule:*
☑ Date of filing.
☐ Other date (*specify*):

3. *History of emergency actions:*
☑This is the first time this emergency rule has been adopted.
☐This is the first readoption of an emergency rule printed in the *State Register* on _____ under I.D. No.

4. *Statutory authority under which the rule was adopted:*
Education Law sections 207(not subdivided), 210(not subdivided), 305(1), (2) and (20), 4401(2), 4402(1), 4403(3) and 4410(13)

5. *This emergency rule is necessary for the preservation of:*
☑ public health
☑ public safety
☐ general welfare

6. *The specific reasons underlying the finding of necessity, above, are as follows:*
See attached Statement of Facts and Circumstances Which Necessitate Emergency Action

7. *Subject of the rule:*
Behavioral interventions, including aversive behavioral interventions

8. *Purpose of the rule:*
To establish standards for behavioral interventions, including a prohibition on the use of aversive behavioral interventions; to

provide for a child-specific exception to the prohibition on the use of aversive interventions; and to establish standards for programs using aversive behavioral interventions.

9. *Public Hearings* (check box and complete as applicable):

☐ A public hearing is not scheduled. (*SKIP TO ITEM 12*)

☐ A public hearing is required by law and is scheduled below.

☑ A public hearing is not required by law, but is scheduled below.

Time	*Date*	*Location*
3:00 - 7:00 pm	August 8, 2006	Albany, NY*
2:00 - 7:00 pm	August 10, 2006	New York City, NY*
3:00 - 7:00 pm	August 15, 2006	Syracuse, NY*

*For the specific locations and details regarding these public hearings, see announcements at:
http://www.vesid.nysed.gov/specialed/timely.htm

NB: Individuals planning to attend the public hearings should check this website for updated announcements prior to the hearing.

10. *Interpreter services* (check only if a public hearing is scheduled):

☑ Interpreter services will be made available to hearing impaired persons, at no charge, upon written request to the agency contact designated in this notice.

11. *Accessibility* (check appropriate box only if a public hearing is scheduled):

☑ All public hearings have been scheduled at places reasonably accessible to persons with a mobility impairment.

☐ Attached is a list of public hearing locations that are **not** reasonably accessible to persons with a mobility impairment. An optional explanation is submitted regarding the nonaccessibility of one or more hearing sites.

12. *Terms of rule* (SELECT ONE):

☐ The full text of the rule is attached since it is under 2,000 words.

☑ A summary of the rule is attached since the full text of the rule is over 2,000 words.

☑ Full text is posted at the following State website:
http://www.vesid.nysed.gov/specialed/timely.htm

☐ Full text is not posted on a State website.

☐ Full text is not posted on a State website but this is a consensus rule or a rule defined in SAPA §102 (2)(a)(ii).

☐ Pursuant to SAPA §202(7)(b), the agency elects to print a description of the subject, purpose and substance of the rule as defined in SAPA §102(2)(a)(ii) [Rate Making].

13. *Type of notice:*

☑ This notice serves both as an emergency adoption and a notice of proposed rule making. This is not a notice of revised rule making.

14. *Emergency expiration date* (A first emergency rule is effective and enforceable for up to 90 days from the **date of filing**. Second and subsequent emergency rules are effective and enforceable for up to 60 days from their **date of**

filing UNLESS the agency specifies an earlier date). This rule expires:

☑ 90 days after filing (*specify*): September 20, 2006

☐ 60 days after filing (*specify*):

☐ Other (*specify date*):

15. Proposed expiration date (check only if applicable):

☐ This proposal will not expire in 365 days because it is for a "rate making" as defined in SAPA §102 (2)(a)(ii) [Rate Making].

16. *The text of the final rule and any required statements and analyses may be obtained from:*

Agency contact Anne Marie Koschnick, Legal Assistant

Office address Office of Counsel, State Education Building, Room 148
Albany, NY 12234

Telephone (518) 473-8296 *E-mail* legal@mail.nysed.gov

17. *Submit data, views or arguments to* (complete only if different than previously named agency contact):

Agency contact Rebecca H. Cort, Deputy Commissioner

Agency name VESID, New York State Education Department

Office address Room 1606, One Commerce Plaza, Albany, NY 12234

Telephone 518-473-2714 *E-mail* rcort@mail.nysed.gov

18. *Public comment will be received until:*

☑ 45 days after publication of this notice (MINIMUM public comment period when full text is attached because it is under 2,000 words or full text of rule has been posted on a State web site or the rule is a consensus rule or a rule defined under SAPA §102[2][a][ii] [Rate Making]).

☐ 60 days after publication of this notice (MINIMUM public comment period when full text is not attached or full text is not posted on a State web site or the rule is not a consensus rule or a rule defined under SAPA §102[2][a][ii] [Rate Making]).

☐ 5 days after the last scheduled public hearing required by statute (MINIMUM, with required hearing). This box may not be checked and the minimum 60-day comment period applies if full text is not attached or text is not posted on a State web site or the rule is not a consensus rule or a rule defined under SAPA §102[2][a][ii] [Rate Making]).

☐ Other: (*specify*) _____.

19. *Additional matter required by statute:*

☐ YES (include material required by statute).

☑ NO additional material required by statute.

20. *Regulatory Agenda* (The **Division of Housing and Community Renewal; Workers' Compensation Board;** and the departments of **Agriculture and Markets, Banking, Education, Environmental Conservation, Family Assistance, Health, Insurance, Labor, Motor Vehicles** and **State** and any other department specified by the Governor or his designee must complete this item. If your agency had an optional agenda published, that should also be indicated below):

☐ This action was a Regulatory Agenda item in the first January issue of the (*year*) *Register.*

☑ This action was a Regulatory Agenda item in the last June issue of the (*year*) 2006 *Register.*

☐ This action was not under consideration at the time this agency's Regulatory Agenda was submitted for publication in the *Register.*

☐ Not applicable.

21. ***Regulatory Impact Statement (RIS)***

(SELECT AND COMPLETE ONE; ALL ATTACHMENTS MUST BE 2,000 WORDS OR LESS, EXCLUDING

SUMMARIES OF STUDIES, REPORTS OR ANALYSES [Needs and Benefits])

A. The attached RIS contains:

☑ The full text of the RIS.

☐ A summary of the RIS.

☐ A consolidated RIS, because this rule is one of a series of closely related and simultaneously proposed rules or is virtually identical to rules proposed during the same year.

21. B. A RIS is **not** attached:

☐ because this rule is subject to a consolidated RIS printed in the *Register* under I.D. No.: ; issue date: .

☐ because this rule is exempt, as defined in SAPA §102(2)(a)(ii) [Rate Making].

☐ but will be published in the *Register* within 30 days of the rule's effective date.

C. ☐ A **statement is attached** claiming exemption pursuant to SAPA §202-a (technical amendment).

22. ***Regulatory Flexibility Analysis (RFA) for small businesses and local governments***
(SELECT AND COMPLETE ONE; ALL ATTACHMENTS MUST BE 2,000 WORDS OR LESS)

A. The attached RFA contains:

☑ The full text of the RFA.

☐ A summary of the RFA.

☐ A consolidated RFA, because this rule is one of a series of closely related rules.

B. ☐ A **statement is attached** explaining why a RFA is not required. This statement is in scanner format and explains the agency's finding that the rule will not impose any adverse economic impact or reporting, recordkeeping or other compliance requirements on small businesses or local governments and the reason(s) upon which the finding was made, including any measures used to determine that the rule will not impose such adverse economic impacts or compliance requirements.

C. A RFA **is not attached:**

☐ because this rule is subject to a consolidated RFA printed in the *Register* under I.D. No.: ; issue date:

☐ because this rule is exempt, as defined in SAPA §102(2)(a)(ii) [Rate Making].

☐ but will be published in the *Register* within 30 days of the rule's effective date.

23. ***Rural Area Flexibility Analysis (RAFA)***
(SELECT AND COMPLETE ONE; ALL ATTACHMENTS MUST BE 2,000 WORDS OR LESS)

A. The attached RAFA contains:

☑ The full text of the RAFA.

☐ A summary of the RAFA.

☐ A consolidated RAFA, because this rule is one of a series of closely related rules.

B. ☐ A **statement is attached** explaining why a RAFA is not required. This statement is in scanner format and explains the agency's finding that the rule will not impose any adverse impact on rural areas or reporting, recordkeeping or other compliance requirements on public or private entities in rural areas and the reason(s) upon which the finding was made, including what measures were used to determine that the rule will not impose such adverse impact or compliance requirements.

C. A RAFA **is not attached:**

☐ because this rule is subject to a consolidated RAFA printed in the *Register* under I.D. No.: ; issue date: .

☐ because this rule is exempt, as defined in SAPA §102(2)(a)(ii) [Rate Making].

☐ but will be published in the *Register* within 30 days of the rule's effective date.

24. ***Job Impact Statement (JIS)***
(SELECT AND COMPLETE ONE; ALL ATTACHMENTS MUST BE 2,000 WORDS OR LESS)

A. The attached JIS contains:

☐ The full text of the JIS.

☐ A summary of the JIS.

☐ A consolidated JIS, because this rule is one of a series of closely related rules.

24. B. ☑ A **statement is attached** explaining why a JIS is not required. This statement is in scanner format and explains the agency's finding that the rule will not have a substantial adverse impact on jobs and employment opportunities (as apparent from its nature and purpose) and will have a positive impact or no impact on jobs and employment opportunities; except when it is evident from the subject matter of the rule that it could only have a positive impact or no impact on jobs and employment opportunities, the statement shall include a summary of the information and methodology underlying that determination.

☐ A JIS/Request for Assistance is submitted with this notice.

C. A JIS is **not attached**:

☐ because this rule is subject to a consolidated JIS printed in the *Register* under I.D. No.: ; issue date:

☐ because this rule is exempt, as defined in SAPA §102(2)(a)(ii) [Rate Making].

☐ because this rule was proposed by the State Comptroller or Attorney General.

☐ but will be published in the *Register* within 30 days of the rule's effective date.

25. Referenced material:

☑ No information is being incorporated by reference in this rule making.

☐ This rule making contains referenced material in the following Parts, sections, subdivisions, or paragraphs:

AGENCY CERTIFICATION (To be completed by the person who PREPARED the notice.)

I have reviewed this form and the information submitted with it. The information contained in this notice is correct to the best of my knowledge.

I have reviewed Article 2 of SAPA and Parts 260 through 263 of 19 NYCRR, and I hereby certify that this notice complies with all applicable provisions.

Name Rebecca H. Cort *Signature* Rebecca H. Cort

Address VESID, NYSED, Room 1606 One Commerce Plaza, Albany, NY 12234

Telephone 518-473-2714 *E-Mail* rcort@mail.nysed.gov

Date June 20, 2006

Please read before submitting this notice:

1. Except for this form itself, all text must be typed in the prescribed format as described in the Department of State's *Register* procedures manual, *Rule Making in New York*.
2. **Collate the original notice and attachments** as: (1) form; (2) text or summary of rule; and, ***if any***, (3) regulatory impact statement, (4) regulatory flexibility analysis for small businesses and local governments, (5) rural area flexibility analysis, (6) job impact statement, (7) assessment of public comment. Submit the originals, as collated, **and ONE copy of that collated set.** When filing any type of agency adoption, also submit an original certification stapled to rule text — **and TWO copies of that set.**
3. **Mail or hand deliver hard copy of rule making package to:** Department of State, Division of Administrative Rules, 41 State Street, Suite 330, Albany, NY 12231-0001.
4. **E-mail text/substance and attachments to:** nysregister@dos.state.ny.us **or** attach a disk containing the required materials.

PROPOSED AMENDMENT OF SECTION 19.5 OF THE RULES OF THE BOARD OF REGENTS AND SECTIONS 200.1, 200.4 AND 200.7 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION AND PROMULGATION OF A NEW SECTION 200.22 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION PURSUANT TO SECTIONS 207, 210, 305, 4401, 4402, 4403 AND 4410 OF THE EDUCATION LAW, RELATING TO BEHAVIORAL INTERVENTIONS, INCLUDING THE USE OF AVERSIVE BEHAVIORAL INTERVENTIONS

STATEMENT OF FACTS AND CIRCUMSTANCES WHICH NECESSITATE EMERGENCY ACTION

The purpose of the proposed rule is to establish standards for behavioral interventions, including a prohibition on the use of aversive behavioral interventions; to provide for a child-specific exception to the prohibition on the use of aversive behavioral interventions; and to establish standards for programs using aversive behavioral interventions.

Currently, neither New York State Education Law nor the Regulations of the Commissioner prohibit the use of aversive behavioral interventions in school programs serving New York State students. Aversive behavioral interventions have the potential to affect the health and safety of children, yet there is currently a lack of a clear policy and no standards on their use in school programs. Through site visits, reports and complaints filed by parents, school districts and others, the Department identified concerns with preschool programs serving children with disabilities that use aversive behavioral interventions such as sprays to the face and noxious tastes placed on the child's lips, and an out-of-state residential school serving more than 145 New York State

students with disabilities that is using contingent food programs, mechanical restraints and electric shock interventions to modify students' behaviors. A recent site review of the out-of-state residential school identified significant concerns for the potential impact on the health and safety of New York's students placed at this school. Regulations are needed to limit the aversive behavioral interventions that inflict pain and discomfort to children and have the potential to result in physical injury and/or emotional harm. In those exceptional instances when a child displays such extreme self-injurious or aggressive behaviors as to warrant a form of punishment to intervene with the behavior, regulations are necessary to ensure that such interventions are used in accordance with the highest standards of oversight and monitoring and in accordance with research-based practices.

Emergency action to adopt the proposed rule is necessary for the preservation of the public health and safety in order to minimize the risk of physical injury and/or emotional harm to students who are subject to aversive behavioral interventions that inflict pain or discomfort, by immediately establishing standards for the use of such interventions that will ensure they are used only when absolutely necessary and under conditions of minimal intensity and duration to accomplish their purpose.

It is anticipated that the proposed rule will be presented to the Board of Regents for adoption as a permanent rule at the September 2006 meeting of the Board of Regents, which is the first scheduled meeting after expiration of the 45-day public comment period mandated by the State Administrative Procedure Act.

PROPOSED AMENDMENT OF SECTION 19.5 OF THE RULES OF THE BOARD OF REGENTS AND SECTIONS 200.1, 200.4 AND 200.7 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION AND PROMULGATION OF A NEW SECTION 200.22 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION PURSUANT TO SECTIONS 207, 210, 305, 4401, 4402, 4403 AND 4410 OF THE EDUCATION LAW, RELATING TO BEHAVIORAL INTERVENTIONS, INCLUDING THE USE OF AVERSIVE BEHAVIORAL INTERVENTIONS

SUMMARY OF PROPOSED RULE

The Commissioner of Education proposes to amend section 19.5 of the Rules of the Board of Regents and sections 200.1, 200.4 and 200.7 of the Regulations of the Commissioner of Education, and to add a new section 200.22 of the Commissioner's Regulations, effective June 23, 2006, relating to standards for behavioral interventions, including aversive behavioral interventions. The following is a summary of the substance of the proposed amendments.

Section 19.5(a)(1) of the Rules of the Board of Regents, as amended, provides that no teacher, administrator, officer, employee or agent of a school district in New York State, a board of cooperative educational services (BOCES), a charter school, a State-operated and State-supported school, an approved preschool program, an approved private school, an approved out-of-State day or residential school, or a registered nonpublic nursery, kindergarten, elementary or secondary school in this State, shall use corporal punishment against a pupil.

Section 19.5(b) of the Rules of the Board of Regents, as amended, establishes a prohibition on the use of aversive behavioral interventions, except as provided by a

child-specific exception pursuant to proposed section 200.22(e) of the Commissioner's Regulations, and defines the term 'aversive behavioral intervention.'

Sections 200.1(lll) and (mmm) of the Commissioner's Regulations, as added, provide, respectively, definitions of the terms 'aversive behavioral intervention' and 'behavioral intervention plan.'

Section 200.4(d)(3)(i) of the Commissioner's Regulations, as amended, provides that the CSE or CPSE shall, in developing a student's IEP, consider supports and strategies to address student behaviors that are consistent with the requirements in section 200.22.

Section 200.7(a)(2)(i)(f) of the Commissioner's Regulations, as added, provides that conditional approval of private schools to serve students with disabilities shall also be based on submission for approval of the school's procedures regarding behavioral interventions, including, if applicable, procedures for the use of aversive behavioral interventions.

Section 200.7(a)(3)(iv) of the Commissioner's Regulations, as amended, provides that a school may be removed from the list of approved schools five days after written notice by the commissioner indicating that there is a clear and present danger to the health or safety of students attending the school, and listing the dangerous conditions, including but not limited to, evidence that an approved private school is using aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students without a child-specific exception provided pursuant to section 200.22 or that an approved private school is using aversive behavioral interventions in a manner inconsistent with the standards as established in section 200.22(f).

Section 200.7(b)(8) of the Commissioner's Regulations, as added, provides that except as provided in section 200.22(e), an approved private school, a State-operated school or a State-supported school is prohibited from using corporal punishment and aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students.

Section 200.7(c)(6) of the Commissioner's Regulations, as added, requires a private school that proposes to use or continue to use aversive behavioral interventions in its program shall submit, not later than August 15, 2006, its written policies and procedures on behavioral interventions to the Department with certification that the school's policies, procedures and practices are demonstrably in compliance with the standards established in section 200.22(f); provides that any school that fails to meet this requirement shall be immediately closed to new admissions of New York Students and shall be prohibited from using aversive behavioral interventions with any New York State student placed in such program; and provides that failure to comply with this requirement may result in termination of private school approval pursuant to section 200.7(a)(3)

Section 200.22 of the Commissioner's Regulations, as added, establishes program standards for behavioral interventions. This section further provides that for an education program operated pursuant to section 112 of the Education Law and Part 116 of the Regulations of the Commissioner of Education, if a provision of section 200.22 relating to use of time out rooms, emergency use of physical restraints, or aversive behavioral interventions conflicts with the rules of the respective State agency operating

such program, the rules of such State agency shall prevail and the conflicting provision of section 200.22 shall not apply.

Section 200.22(a) establishes requirements for the conduct of a functional behavioral assessment to assess student behaviors.

Section 200.22(b) establishes requirements for behavioral intervention plans.

Section 200.22(c) establishes requirements regarding the use of time out rooms.

Section 200.22(d) establishes requirements for the emergency use of physical restraints.

Section 200.22(e) establishes the process for a child-specific exception to the Regents prohibition on the use of aversive behavioral interventions, including timelines and procedures for an independent panel of experts appointed by the commissioner or commissioner's designee to make a recommendation to the CSE or CPSE and to the Commissioner as to whether a child-specific exception is warranted.

Section 200.22(f)(1) sets forth applicability provisions for the requirements set forth in the subdivision.

Section 200.22(f)(2) establishes general requirements for programs that employ the use of aversive behavioral interventions.

Section 200.22(f)(3) requires each school that uses aversive behavioral interventions to establish a Human Rights Committee to monitor the school's behavior intervention program to ensure the protection of legal and human rights of individuals.

Section 200.22(f)(4) establishes supervision and training requirements for persons who use aversive behavioral interventions.

Section 200.22(f)(5) states that aversive behavioral interventions shall be provided only with the informed written consent of the parent and no parent shall be required by the program to remove the student from the program if he or she refuses consent for an aversive behavioral interventions.

Section 200.22(f)(6) requires that the program's use of aversive behavioral interventions, including a review of all incident reports relating to such interventions, shall be subject to quality assurance reviews.

Section 200.22(f)(7) provides for ongoing monitoring of student progress in programs using aversive behavioral interventions; and requires a school district that places a student in such a program to oversee the student's education and behavior program, including review of written progress monitoring and incident reports, at least annual observations of, and, as appropriate, interviews with the student and regular communication with the student's parent; and requires the CSE or CPSE to convene a meeting at least every six months to review the student's educational program and placement.

PROPOSED AMENDMENT OF SECTION 19.5 OF THE RULES OF THE BOARD OF REGENTS AND SECTIONS 200.1, 200.4 AND 200.7 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION AND PROMULGATION OF A NEW SECTION 200.22 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION, PURSUANT TO SECTIONS 207, 210, 305, 4401, 4402, 4403 AND 4410 OF THE EDUCATION LAW, RELATING TO BEHAVIORAL INTERVENTIONS, INCLUDING THE USE OF AVERSIVE BEHAVIORAL INTERVENTIONS

REGULATORY IMPACT STATEMENT

STATUTORY AUTHORITY:

Education Law section 207 empowers the Regents and Commissioner of Education to adopt rules and regulations to carry out State education laws and functions and duties conferred on the Education Department by law.

Section 210 authorizes the Regents to register institutions in terms of New York standards.

Section 305(1) and (2) provide the Commissioner, as chief executive officer of the State education system, with general supervision over schools and institutions subject to the provisions of education law, and responsibility for executing Regents policies. Section 305(20) authorizes the Commissioner with such powers and duties charged by the Regents.

Section 4401 authorizes the Commissioner to approve private day and residential programs to serve students with disabilities.

Section 4402 establishes school district duties for education of students with disabilities.

Section 4403 outlines Department and school district responsibilities concerning education programs and services to students with disabilities. Section 4403(3) authorizes the Department to adopt rules and regulations as the Commissioner deems in their best interests.

Section 4410 outlines education services and programs for preschool children with disabilities. Section 4410(13) authorizes the Commissioner to adopt regulations.

LEGISLATIVE OBJECTIVES:

The rule carries out the above objectives to ensure that students with disabilities are provided a free appropriate public education, including behavioral assessments and interventions consistent with federal law.

NEEDS AND BENEFITS:

The rule is necessary to establish standards for behavioral interventions, including a prohibition on use of aversive behavioral interventions (ABIs); to provide for a child specific exception; and to establish standards for programs using ABIs. The rule ensures that ABIs are used only when necessary; in accordance with research-based practices; under conditions of minimal intensity and duration to accomplish their purpose; and in accordance with the highest standards of oversight and monitoring.

The rule is, in part, based on the following studies.

"On the Status of Knowledge for Using Punishment: Implications for Treating Behavior Disorders," Dorothea C. Lerman and Christina M. Vorndran, Louisiana State University and the Louisiana Center for Excellence in Autism (Journal of Applied Behavior Analysis, 2002, 35, 431-464). This report, highlighting research findings relating to use of punishment to treat problem behaviors, was considered in developing standards for ABIs, including that ABIs be combined with reinforcement procedures; include procedures for generalization and maintenance of behaviors and for fading ABI use; be limited to behaviors of greatest concern; apply the lowest intensity and duration; employ strategies that increase the effectiveness of mild levels of ABIs; and use alternative procedures other than increasing an ABI's magnitude when an aversive fails to suppress a behavior over time. The report discussed ethical and practical issues surrounding use of punishers to change behaviors and side effects of punishment including collateral effects as emotional reactions, and increases in aggressive and/or escape behaviors. The criteria to be used by the independent panel is based, in part, upon information in this study that ABIs may be indicated when the variables maintaining a problem behavior cannot be identified; when problem behavior must be suppressed rapidly to prevent serious physical harm; or when other interventions have not reduced self-injurious behavior to clinically acceptable levels without use of punishment-based interventions.

"Establishing and Maintaining Treatment Effects with Less Intrusive Consequences Via a Paring Procedure", Christina M. Vorndran and Dorothea C.

Lerman, Louisiana State University (Journal of Applied Behavior Analysis, 2006, 39, 35-48) discussed the need to design interventions using punishment to be the least intrusive possible and to include strategies to improve an ABI's effectiveness and acceptability. This study was considered in proposing standards that ABIs be implemented consistent with peer-reviewed research based practices; include individualized procedures for the generalization and maintenance of behaviors and for the fading of ABI use; and employ strategies to increase the effectiveness of mild levels of ABIs.

"Contingent Electric Shock (SIBIS) and a Conditioned Punisher Eliminate Severe Head Banging in a Preschool Child", Sarah-Jeanne Salvy, James A. Mulick, Eric Butter, Rita Kahng Bartlett and Thomas R. Linscheid, (Behavioral Interventions, 2004, 19:59-72), published online in Wiley InterScience (www.interscience.wiley.com), which discussed strategies that increase the effectiveness of mild levels of ABIs, was considered in establishing standards for ABI use.

"School-wide Positive Behavior Support Implementer's Blueprint and Self-Assessment" (Center on Positive Behavioral Interventions and Supports, University of Oregon, 2004), which discussed research findings relating to negative side effects associated with the exclusive use of punishing environments and consequences, and "Why Must Behavior Intervention Plans Be Based on Functional Assessments?", G. Roy Mayer, California State University, Los Angeles, 1997 (published online at www.calstatela.edu/academic/adm_coun/docs/501/funcart.html) were

considered in proposing standards for assessing and addressing collateral effects of the use of punishment. These studies identified that punishment-based interventions can lead to students engaging in aggressive and/or escape behaviors and foster development of negative attitudes toward self and school programs. Mayer's article also identified that when reinforcement approaches are used to reduce behavior that match the function or reasons for the behavior, they are "just as effective as punishment approaches when used on self-injurious behavior of individuals with disabilities." Mayer's finding was considered in proposing the requirement that ABIs be combined with reinforcement procedures, as individually determined based on an assessment of the student's reinforcement preferences.

"Physical Restraint in School", Joseph B. Ryan and Reece L. Peterson, University of Nebraska-Lincoln, 2005, which discusses research, court and Office of Civil Rights rulings on individual rights of students, restraint procedures and professional training for emergency interventions, including the use of physical restraint in educational settings, was considered in proposing policy and standards for emergency physical restraint interventions.

"Functional Behavioral Assessment: Policy Development in Light of Emerging Research and Practice", W. David Tilly, Joseph Kovaleski, Glen Dunlap, Timothy Knoster, Linda Bambara, Donald Kincaid, (March 24, 1998), developed at request of National Association of State Directors of Special Education (NASDSE) and "A Practical Guide to Functional Behavioral Assessment" Margaret E. Shippen, Robert G. Simpson and Steven A Crites,

(Teaching Exceptional Children , Vol. 35, No.5, pp.36-44, 2003, Council for Exceptional Children) were considered in the development of standards for functional behavioral assessments (FBAs)and behavioral intervention plans (BIPs).

COSTS:

a. Costs to State government: See costs to the Education Department.

b. Costs to local governments: None

c. Costs to regulated parties: School districts may incur minimal costs to duplicate materials to submit an application for a child-specific exception and for required observations (estimated at a $200 per student) and Committee on Special Education (CSE) or Committee on Preschool Special Education (CPSE) meetings at least every six months for students receiving aversive behavioral interventions (estimated at $1,000 per student). Currently, it is estimated that less than 30 school districts in New York State have students placed in schools using ABIs and most of these have only one student where such a recommendation currently appears on the student's individualized education program (IEP). Schools using ABIs may also incur additional administrative costs estimated at less than $8,000 annually for implementing standards, including training (estimated at $2,000 annually) and costs associated with convening Human Rights Committee meetings at least quarterly (e.g., administrative oversight, duplication and meeting costs estimated at $6,000 per year).

d. Costs to the Education Department of implementation and continuing compliance: The cost of funding a three-member independent panel of experts to provide a recommendation regarding the need for a child-specific exception is estimated at approximately $360,000 for the first year. This calculation was based on approximately 100 requests for child-specific exceptions, at an estimated cost of $3,600 for each student. Additional costs for State administration and oversight of the child-specific exception, including duplication of materials for the panel are estimated at $10,000 annually. The annual costs of the review panel are expected to be less in subsequent years. These costs may be offset if the CSE/CPSE determines that a student no longer requires ABIs since the cost for one student currently placed in an out-of-state residential school for ABIs ranges from $281,180 to $329,970 per year.

LOCAL GOVERNMENT MANDATES:

Section 19.5(a) prohibits use of corporal punishment in school districts, BOCES, charter schools, State-operated or State supported schools, approved preschool programs, approved private schools, approved out-of-State day or residential schools, or in registered nonpublic nursery, kindergarten, elementary or secondary schools in the State.

Section 19.5(b) prohibits use of ABIs except pursuant to a child-specific exception pursuant to section 200.22(e) and (f).

Section 200.4(d)(3)(i) requires a CSE/CPSE, in developing a student's IEP, to consider supports and strategies to address student behaviors that are

consistent with program standards in section 200.22 relating to a student's FBA, BIP, use of time out rooms, emergency interventions and ABIs.

A CSE/CPSE shall conduct a FBA in accordance with section 200.22(a) and develop and implement a BIP in accordance with 200.22(b).

Each school, which uses a time out room as part of its behavior management approach, is subject to section 200.22(c) requirements.

Section 200.22(d) establishes requirements regarding emergency use of physical restraints.

Section 200.22(e) provides, effective on or after October 1, 2006, whenever a CSE/CPSE is considering whether a child-specific exception to the prohibition of the use of ABIs is warranted, the school district shall submit an application to the Commissioner for referral to an independent panel of experts. The CSE/CPSE shall, based on its consideration of the recommendation of the panel, determine whether the student's IEP shall include a child-specific exception allowing the use of ABIs. The school district shall notify the Commissioner when such exemption has been included in the student's IEP. An IEP providing such exemption shall identify the specific targeted behaviors, ABIs to be used, and aversive conditioning devices where the ABIs include use of such devices.

Public schools, BOCES, charter schools, approved preschool programs, approved private schools, State-operated or State-supported schools in NYS and approved out-of-State day or residential schools are subject to section 200.22(f) program standards for use of ABIs. Each school using ABIs shall establish a

Human Rights Committee pursuant to section 200.22(f)(3)to monitor the program. Persons using ABIs shall be supervised and trained pursuant to section 200.22(f)(4). Pursuant to section 200.22(f)(5), ABIs shall be provided only with the parent's informed written consent and no parent shall be required by the program to remove the student from the program if the parent refuses consent. Use of ABIs is subject to quality assurance reviews pursuant to section 200.22(f)(6) and the program shall provide for ongoing monitoring of student progress pursuant to section 200.22(f)(7), including quarterly written progress reports. A school district placing a student in such program shall ensure the student's IEP and BIP are being implemented. The CSE/CPSE shall convene at least every six months to review the student's educational program and placement, including review of written progress monitoring and incident reports, at least annual observations of, and, as appropriate, interviews with the student and regular communication with the parent. Each school proposing to use ABIs pursuant to a child-specific exception shall submit its policies and procedures consistent with section 200.22(f) to the Department for approval prior to use.

PAPERWORK:

CSEs/CPSEs must compile and submit student record information and school districts must submit an application for a child-specific exception to the prohibition on the use of ABIs. Currently there are approximately 23 school districts that have students recommended for ABIs.

DUPLICATION:

The rule will not duplicate, overlap or conflict with any other State or federal statute or regulation.

ALTERNATIVES:

The Department considered other states' experiences with statutes and/or regulations prohibiting ABIs in school programs, including definitions, child-specific exceptions and standards; conducted a review of the research literature; and sought expertise of individuals with credentials in behavioral psychology. The Department considered a full prohibition on the use of ABIs, but determined there may be exceptional circumstances in which a student may be displaying behaviors that threaten the health or safety of the student for which ABIs may be warranted.

FEDERAL STANDARDS:

The rule does not exceed any minimum federal standards.

COMPLIANCE SCHEDULE:

It is anticipated regulated parties will be able to achieve compliance with the rule by its effective date.

PROPOSED AMENDMENT OF SECTION 19.5 OF THE RULES OF THE BOARD OF REGENTS AND SECTIONS 200.1, 200.4 AND 200.7 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION AND PROMULGATION OF A NEW SECTION 200.22 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION PURSUANT TO SECTIONS 207, 210, 305, 4401, 4402, 4403 AND 4410 OF THE EDUCATION LAW, RELATING TO BEHAVIORAL INTERVENTIONS, INCLUDING THE USE OF AVERSIVE BEHAVIORAL INTERVENTIONS

REGULATORY FLEXIBILITY ANALYSIS FOR SMALL BUSINESSES AND LOCAL GOVERNMENTS

Small Businesses:

The proposed rule is necessary to establish standards for behavioral interventions, including a prohibition on the use of aversive behavioral interventions for students with disabilities; to provide for a child specific exception to the prohibition on the use of aversive behavioral interventions; and to establish standards for programs using aversive behavioral interventions and do not impose any adverse economic impact, reporting, recordkeeping or any other compliance requirements on small businesses. Because it is evident from the nature of the rule that it does not affect small businesses, no affirmative steps are needed to ascertain that fact and none were taken. Accordingly, a regulatory flexibility analysis is not required and one has not been prepared.

Local Governments:

The proposed rule applies to all public school districts, boards of cooperative educational services (BOCES) and charter schools in this State. Currently, there are

approximately 23 school districts that have students recommended for aversive behavioral interventions.

COMPLIANCE REQUIREMENTS:

Section 19.5(a) of the Regents Rules prohibits use of corporal punishment in school districts, BOCES, charter schools, State-operated or State supported schools, approved preschool programs, approved private schools, approved out-of-State day or residential schools, or in registered nonpublic nursery, kindergarten, elementary or secondary schools in the State.

Section 19.5(b) prohibits use of ABIs except pursuant to a child-specific exception pursuant to section 200.22(e) and (f).

Section 200.4(d)(3)(i) of the Commissioner's Regulations requires a CSE/CPSE, in developing a student's IEP, to consider supports and strategies to address student behaviors that are consistent with program standards in section 200.22 relating to a student's FBA, BIP, use of time out rooms, emergency interventions and ABIs.

Section 200.7(a)(2)(i)(f) provides that conditional approval of private schools to serve students with disabilities shall also be based on submission for approval of the school's procedures regarding behavioral interventions, including, if applicable, procedures for the use of aversive behavioral interventions.

Section 200.7(a)(3)(iv) that a school may be removed from the list of approved schools five days after written notice by the commissioner indicating that there is a clear and present danger to the health or safety of students attending the school, and listing the dangerous conditions, including but not limited to, evidence that an approved private school is using aversive behavioral interventions to reduce or eliminate maladaptive

behaviors of students without a child-specific exception provided pursuant to section 200.22 or that an approved private school is using aversive behavioral interventions in a manner inconsistent with the standards as established in section 200.22(f).

Section 200.7(b)(8) provides that except as provided in section 200.22(e), an approved private school, a State-operated school or a State-supported school is prohibited from using corporal punishment and aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students.

Section 200.7(c)(6) requires a private school that proposed to use or continue to use aversive behavioral interventions in its program shall submit, not later than August 15, 2006, its written policies and procedures on behavioral interventions to the Department with certification that the school's policies, procedures and practices are demonstrably in compliance with the standards established in section 200.22(f); provides that any school that fails to meet this requirement shall be immediately closed to new admissions of New York Students and shall be prohibited from using aversive behavioral interventions with any New York State student placed in such program; and provides that failure to comply with this requirement may result in termination of private school approval pursuant to section 200.7(a)(3)

A CSE/CPSE shall conduct a FBA in accordance with section 200.22(a) and develop and implement a BIP in accordance with 200.22(b).

Each school that uses a time out room as part of its behavior management approach is subject to section 200.22(c) requirements.

Section 200.22(d) establishes requirements regarding emergency use of physical restraints.

Section 200.22(e) provides, effective on or after October 1, 2006, whenever a CSE/CPSE is considering whether a child-specific exception to the prohibition of the use of ABIs is warranted, the school district shall submit an application to the Commissioner for referral to an independent panel of experts. The CSE/CPSE shall, based on its consideration of the recommendation of the panel, determine whether the student's IEP shall include a child-specific exception allowing the use of ABIs. The school district shall notify the Commissioner when such exemption has been included in the student's IEP. An IEP providing such exemption shall identify the specific targeted behaviors, ABIs to be used, and aversive conditioning devices where the ABIs include use of such devices.

Public schools, BOCES, charter schools, approved preschool programs, approved private schools, State-operated or State-supported schools in NYS and approved out-of-State day or residential schools are subject to section 200.22(f) program standards for use of ABIs. Each school using ABIs shall establish a Human Rights Committee pursuant to section 200.22(f)(3)to monitor the program. Persons using ABIs shall be supervised and trained pursuant to section 200.22(f)(4). Pursuant to section 200.22(f)(5), ABIs shall be provided only with the parent's informed written consent and no parent shall be required by the program to remove the student from the program if the parent refuses consent. Use of ABIs is subject to quality assurance reviews pursuant to section 200.22(f)(6) and the program shall provide for ongoing monitoring of student progress pursuant to section 200.22(f)(7), including quarterly written progress reports. A school district placing a student in such program shall ensure the student's IEP and BIP are being implemented. The CSE/CPSE shall

convene at least every six months to review the student's educational program and placement, including review of written progress monitoring and incident reports, at least annual observations of, and, as appropriate, interviews with the student and regular communication with the parent. Each school proposing to use ABIs pursuant to a child-specific exception shall submit its policies and procedures consistent with section 200.22(f) to the Department for approval prior to use.

PROFESSIONAL SERVICES:

The proposed amendment will not impose any additional professional service requirements on school districts, BOCES or charter schools.

COMPLIANCE COSTS:

School districts may incur minimal costs to duplicate materials to submit an application for a child-specific exception and for required observations (estimated at a $200 per student) and Committee on Special Education (CSE) or Committee on Preschool Special Education (CPSE) meetings at least every six months for students receiving aversive behavioral interventions (estimated at $1,000 per student). Currently, it is estimated that less than 30 school districts in New York State have students placed in schools using ABIs and most of these have only one student where such a recommendation currently appears on the student's individualized education program (IEP). Schools using ABIs may also incur additional administrative costs estimated at less than $8,000 annually for implementing standards, including training (estimated at $2,000 annually) and costs associated with convening Human Rights Committee meetings at least quarterly (e.g., administrative oversight, duplication and meeting costs estimated at $6,000 per year).

ECONOMIC AND TECHNICAL FEASIBILITY:

The proposed rule does not impose any new technological requirements. Economic feasibility is addressed above under compliance costs.

MINIMIZING ADVERSE IMPACT:

The proposed rule is necessary to implement Regents policy to establish standards for behavioral interventions, including a prohibition on the use of aversive behavioral interventions; to provide for a child specific exception to the prohibition on the use of aversive behavioral interventions; and to establish standards for programs using aversive behavioral interventions. In developing the proposed amendment, the Department considered other states' experiences with statutes and/or regulations prohibiting aversive behavioral interventions in school programs, including definitions, child-specific exceptions and standards; conducted a review of the research literature; and sought the professional expertise of individuals with credentials in behavioral psychology. The Department considered a full prohibition on the use of aversive behavioral interventions, but determined that there may be exceptional circumstances in which a student may be displaying behaviors that threaten the health or safety of the student for which aversive behavioral interventions may be warranted. The proposed rule will ensure that aversive behavioral interventions are used only when necessary; in accordance with research-based practices and the highest standards of oversight and monitoring; under conditions of minimal intensity and duration to accomplish their purpose; and consistent with the requirements of the Individuals with Disabilities Education Act (IDEA).

LOCAL GOVERNMENT PARTICIPATION:

Copies of the proposed rule will be provided to District Superintendents with the request that they distribute it to school districts within their supervisory districts for review and comment. In addition, the State Education Department will schedule public hearings on the proposed amendments.

PROPOSED AMENDMENT OF SECTION 19.5 OF THE RULES OF THE BOARD OF REGENTS AND SECTIONS 200.1, 200.4 AND 200.7 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION AND PROMULGATION OF A NEW SECTION 200.22 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION PURSUANT TO SECTIONS 207, 210, 305, 4401, 4402, 4403 AND 4410 OF THE EDUCATION LAW, RELATING TO BEHAVIORAL INTERVENTIONS, INCLUDING THE USE OF AVERSIVE BEHAVIORAL INTERVENTIONS

RURAL AREA FLEXIBILITY ANALYSIS

TYPES AND ESTIMATED NUMBERS OF RURAL AREAS:

The rule will apply to all public school districts, boards of cooperative educational services (BOCES), charter schools, State-operated and State-supported schools, approved preschool programs, approved private schools, approved out-of-state day or residential schools, and registered nonpublic nursery, kindergarten, elementary or secondary schools in this State, including those in the 44 rural counties with less than 200,000 inhabitants and the 71 towns in urban counties with population density of 150 per square miles or less.

REPORTING, RECORD KEEPING AND OTHER COMPLIANCE REQUIREMENTS AND PROFESSIONAL SERVICES:

Section 19.5(a) of the Regents Rules prohibits use of corporal punishment in school districts, BOCES, charter schools, State-operated or State supported schools, approved preschool programs, approved private schools, approved out-of-State day or residential schools, or in registered nonpublic nursery, kindergarten, elementary or secondary schools in the State.

Section 19.5(b) prohibits use of ABIs except pursuant to a child-specific exception pursuant to section 200.22(e) and (f).

Section 200.4(d)(3)(i) of the Commissioner's Regulations requires a CSE/CPSE, in developing a student's IEP, to consider supports and strategies to address student behaviors that are consistent with program standards in section 200.22 relating to a student's FBA, BIP, use of time out rooms, emergency interventions and ABIs.

Section 200.7(a)(2)(i)(f) provides that conditional approval of private schools to serve students with disabilities shall also be based on submission for approval of the school's procedures regarding behavioral interventions, including, if applicable, procedures for the use of aversive behavioral interventions.

Section 200.7(a)(3)(iv) that a school may be removed from the list of approved schools five days after written notice by the commissioner indicating that there is a clear and present danger to the health or safety of students attending the school, and listing the dangerous conditions, including but not limited to, evidence that an approved private school is using aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students without a child-specific exception provided pursuant to section 200.22 or that an approved private school is using aversive behavioral interventions in a manner inconsistent with the standards as established in section 200.22(f).

Section 200.7(b)(8) provides that except as provided in section 200.22(e), an approved private school, a State-operated school or a State-supported school is prohibited from using corporal punishment and aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students.

Section 200.7(c)(6) requires a private school that proposed to use or continue to use aversive behavioral interventions in its program shall submit, not later than August 15, 2006, its written policies and procedures on behavioral interventions to the Department with certification that the school's policies, procedures and practices are demonstrably in compliance with the standards established in section 200.22(f); provides that any school that fails to meet this requirement shall be immediately closed to new admissions of New York Students and shall be prohibited from using aversive behavioral interventions with any New York State student placed in such program; and provides that failure to comply with this requirement may result in termination of private school approval pursuant to section 200.7(a)(3)

A CSE/CPSE shall conduct a FBA in accordance with section 200.22(a) and develop and implement a BIP in accordance with 200.22(b).

Each school that uses a time out room as part of its behavior management approach is subject to section 200.22(c) requirements.

Section 200.22(d) establishes requirements regarding emergency use of physical restraints.

Section 200.22(e) provides, effective on or after October 1, 2006, whenever a CSE/CPSE is considering whether a child-specific exception to the prohibition of the use of ABIs is warranted, the school district shall submit an application to the Commissioner for referral to an independent panel of experts. The CSE/CPSE shall, based on its consideration of the recommendation of the panel, determine whether the student's IEP shall include a child-specific exception allowing the use of ABIs. The school district shall notify the Commissioner when such exemption has been included in

the student's IEP. An IEP providing such exemption shall identify the specific targeted behaviors, ABIs to be used, and aversive conditioning devices where the ABIs include use of such devices.

Public schools, BOCES, charter schools, approved preschool programs, approved private schools, State-operated or State-supported schools in NYS and approved out-of-State day or residential schools are subject to section 200.22(f) program standards for use of ABIs. Each school using ABIs shall establish a Human Rights Committee pursuant to section 200.22(f)(3)to monitor the program. Persons using ABIs shall be supervised and trained pursuant to section 200.22(f)(4). Pursuant to section 200.22(f)(5), ABIs shall be provided only with the parent's informed written consent and no parent shall be required by the program to remove the student from the program if the parent refuses consent. Use of ABIs is subject to quality assurance reviews pursuant to section 200.22(f)(6) and the program shall provide for ongoing monitoring of student progress pursuant to section 200.22(f)(7), including quarterly written progress reports. A school district placing a student in such program shall ensure the student's IEP and BIP are being implemented. The CSE/CPSE shall convene at least every six months to review the student's educational program and placement, including review of written progress monitoring and incident reports, at least annual observations of, and, as appropriate, interviews with the student and regular communication with the parent. Each school proposing to use ABIs pursuant to a child-specific exception shall submit its policies and procedures consistent with section 200.22(f) to the Department for approval prior to use.

The proposed amendment will not impose any additional professional service requirements on school districts.

COSTS:

School districts may incur minimal costs to duplicate materials to submit an application for a child-specific exception and for required observations (estimated at a $200 per student) and Committee on Special Education (CSE) or Committee on Preschool Special Education (CPSE) meetings at least every six months for students receiving aversive behavioral interventions (estimated at $1,000 per student). Currently, it is estimated that less than 30 school districts in New York State have students placed in schools using ABIs and most of these have only one student where such a recommendation currently appears on the student's individualized education program (IEP). Schools using ABIs may also incur additional administrative costs estimated at less than $8,000 annually for implementing standards, including training (estimated at $2,000 annually) and costs associated with convening Human Rights Committee meetings at least quarterly (e.g., administrative oversight, duplication and meeting costs estimated at $6,000 per year).

MINIMIZING ADVERSE IMPACT:

The proposed rule is necessary to implement Regents policy to establish standards for behavioral interventions, including a prohibition on the use of aversive behavioral interventions; to provide for a child specific exception to the prohibition on the use of aversive behavioral interventions; and to establish standards for programs using aversive behavioral interventions. In developing the proposed amendment, the Department considered other states' experiences with statutes and/or regulations

prohibiting aversive behavioral interventions in school programs, including definitions, child-specific exceptions and standards; conducted a review of the research literature; and sought the professional expertise of individuals with credentials in behavioral psychology. The Department considered a full prohibition on the use of aversive behavioral interventions, but determined that there may be exceptional circumstances in which a student may be displaying behaviors that threaten the health or safety of the student for which aversive behavioral interventions may be warranted. The proposed rule will ensure that aversive behavioral interventions are used only when necessary; in accordance with research-based practices and the highest standards of oversight and monitoring; under conditions of minimal intensity and duration to accomplish their purpose; and consistent with the requirements of the Individuals with Disabilities Education Act (IDEA). The proposed amendments are necessary to ensure the health and safety of students. Since these requirements apply to all school districts, BOCES, charter schools, and other affected entities in the State, it is not possible to adopt different standards for entities located in rural areas.

RURAL AREA PARTICIPATION:

The proposed rule will be submitted for discussion and comment to the Department's Rural Education Advisory Committee that includes representatives of school districts in rural areas. In addition, the State Education Department will schedule public hearings on the proposed amendments.

PROPOSED AMENDMENT OF SECTION 19.5 OF THE RULES OF THE BOARD OF REGENTS AND SECTIONS 200.1, 200.4 AND 200.7 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION AND PROMULGATION OF A NEW SECTION 200.22 OF THE REGULATIONS OF THE COMMISSIONER OF EDUCATION PURSUANT TO SECTIONS 207, 210, 305, 4401, 4402, 4403 AND 4410 OF THE EDUCATION LAW, RELATING TO BEHAVIORAL INTERVENTIONS, INCLUDING THE USE OF AVERSIVE BEHAVIORAL INTERVENTIONS

STATEMENT IN LIEU OF A JOB IMPACT STATEMENT

The proposed rule is necessary in order to establish standards for behavioral interventions for students with disabilities, including a prohibition on the use of aversive behavioral interventions; to provide for a child specific exception to the prohibition on the use of aversive behavioral interventions; and to establish standards for programs using aversive behavioral interventions. These amendments will ensure that aversive behavioral interventions are used only when necessary; in accordance with research-based practices; under conditions of minimal intensity and duration to accomplish their purpose; and in accordance with the highest standards of oversight and monitoring. The proposed rule will not have a substantial impact on jobs and employment opportunities. Because it is evident from the nature of the rule that it will not affect job and employment opportunities, no affirmative steps were needed to ascertain that fact and none were taken. Accordingly, a job impact statement is not required, and one has not been prepared.

EXHIBIT 12

Subject: Inmate Correspondence Program.

Purpose: To require inmates to pay for certified or registered mail services and allow inmates to receive canceled, copied or voided checks or money orders.

Text of proposed rule: A new subdivision (o) is added to section 720.3, 7 NYCRR, as follows, and subdivisions (o) and (p) are re-lettered (p) and (q), respectively:

(o) An inmate must request and pay for certified or registered mail service in order to have a valued personal document mailed out from personal property secured by the facility inmate records coordinator. Whenever such mail is prepared and sent by the I.R.C., a copy of the disbursement form and postal documentation showing the item has been sent will be filed in that inmate's personal property folder. If a "return receipt" has been requested as part of the postal service, it shall go directly to the inmate.

Section 720.4 (b) of 7 NYCRR is amended as follows:

(b) Monies received. When, in the course of inspection, cash, checks, or money orders from a clearly identifiable source are found, they shall be removed and credited to the inmate's account as appropriate. *A copy of a check or money order made out to an inmate may be given to that inmate if the word "CANCELED," "COPY" or "VOID" is stamped or written across its face. If this has not been done, the copy will be returned to the sender.* All anonymously received monies will be considered contraband and handled accordingly.

Text of proposed rule and any required statements and analyses may be obtained from: Anthony J. Annucci, Deputy Commissioner and Counsel, Department of Correctional Services, Bldg. 2, State Campus, Albany, NY 12226-2050, (518) 485-9613, e-mail: AJAnnucci@docs.state.ny.us

Data, views or arguments may be submitted to: Same as above.

Public comment will be received until: 45 days after publication of this notice.

Regulatory Impact Statement

Statutory Authority

Section 112 of Correctional Law assigns to the commissioner of correction the powers and duties of management and control of correctional facilities and inmates, and the responsibilities to make rules and regulations for the government and discipline of correctional facilities.

Legislative Objective

By vesting the commissioner with this rule making authority, the legislature intended the commissioner to establish and publish rules and procedures to document the mailings of inmates' valued personal documents and to allow inmates to receive copies of checks or money orders within their correspondence under certain circumstances.

Needs and Benefits

Addition of new 720.3(o): Inmates are not permitted to possess certain personal documents such as a driver's licenses, passports, credit cards, savings passbooks, etc. because these may be used in escape attempts or other activities that could compromise safety and security and good order, and because inmates have no capability to secure and safeguard them on their own. Such documents are sometimes found in an inmate's possession upon entry into Department custody and may be received subsequently from outside sources. Department practice has been to provide the inmate owner with a receipt for a document of this type and to keep it under lock at the correctional facility housing the inmate. Occasionally an inmate may seek to have such a document mailed out of the correctional facility. While accommodating the inmate's request, the Department has an interest in ensuring that the document is not lost or mishandled in the mailing process and that the Department is not liable for loss or damage after it is mailed.

The addition of a new subdivision (o) to section 720.3 requires inmates to use certified or registered mail service when mailing out valued personal documents which have been held in safekeeping at the correctional facility. By requiring an inmate to request and pay for certified or registered mail service, postal documentation is created showing the item has been mailed as requested and affording the inmate a method of tracking and pursuing a claim against the requested mail service if it is lost.

Amendment of 720.4(b): The Department recognizes that an inmate may have a legitimate need for a copy of a check or money order to provide a record that a financial transaction has occurred. At the same time, the Department must ensure for valid security reasons that an inmate does not come into possession of a check or money order that is negotiable or that may be perceived as negotiable. The amendment to section 720.4(b) addresses both concerns by permitting an inmate to receive a copy of a check or money order made to the respective inmate if the word "canceled," "copy" or "void" is stamped or written across its face.

Costs

a. To regulated parties: There is a nominal increase in cost to inmates who request certified or registered mail service instead of regular mail service. Some of this cost may be offset by an inmate's privileged correspondence weekly allowance (see 7 NYCRR 721.3(a)(3)) if the mailing meets the standard of privileged correspondence. The extra cost, however, affords the inmate a method of tracking and pursuing a claim against the requested mail service if a document is lost.

b. To agency, the state and local governments: None.

c. Source of information: Departmental Budget staff.

Local Government Mandates

There are no new mandates imposed upon local governments by these proposals. The proposed amendments do not apply to local governments.

Paperwork

There are no new reports, forms or paperwork that would be required as a result of amending these rules.

Duplication

These proposed amendments do not duplicate any existing State or Federal requirement.

Alternatives

No alternatives are considered feasible. The addition of 720.3(o) is regarded as the only reasonable way ensure that an inmate's valued personal document will be mailed in a manner that allows for is tracking and provides documentation if a claim is to be made. The amendment at 720.4(b) is regarded as the only reasonable way to allow an inmate to receive copies of checks or money orders.

Federal Standards

There are no minimum standards of the Federal government for this or a similar subject area.

Compliance Schedule

The Department of Correctional Services will achieve compliance with the proposed rules immediately.

Regulatory Flexibility Analysis

A regulatory flexibility analysis is not required for this proposal since it will not impose any adverse economic impact or reporting, recordkeeping or other compliance requirements on small businesses or local governments. These proposals merely ensures that an inmate's valued personal documents will be mailed in a manner that allows tracking and documentation and allows an inmate to receive copies of checks or money orders.

Rural Area Flexibility Analysis

A rural area flexibility analysis is not required for this proposal since it will not impose any adverse economic impact or reporting, recordkeeping or other compliance requirements on rural areas. These proposals merely ensure that an inmate's valued personal documents will be mailed in a manner that allows tracking and documentation and allows an inmate to receive copies of checks or money orders.

Job Impact Statement

A job impact statement is not submitted because these proposed rules will have no adverse impact on jobs or employment opportunities. These proposals merely ensure that an inmate's valued personal documents will be mailed in a manner that allows tracking and documentation and allows an inmate to receive copies of checks or money orders.

Education Department

EMERGENCY/PROPOSED RULE MAKING HEARING(S) SCHEDULED

Behavioral Interventions

I.D. No. EDU-28-06-00005-EP
Filing No. 782
Filing date: June 23, 2006
Effective date: June 23, 2006

PURSUANT TO THE PROVISIONS OF THE State Administrative Procedure Act, NOTICE is hereby given of the following action:

Action taken: Amendment of sections 19.5, 200.1, 200.4 and 200.7 and addition of section 200.22 to Title 8 NYCRR.

Statutory authority: Education Law, sections 207 (not subdivided), 210 (not subdivided), 305(1), (2) and (20), 4401(2), 4402(1), 4403(3) and 4410(13)

Finding of necessity for emergency rule: Preservation of public health and public safety.

Specific reasons underlying the finding of necessity: The purpose of the proposed rule is to establish standards for behavioral interventions, including a prohibition on the use of aversive behavioral interventions; to provide for a child-specific exception to the prohibition on the use of aversive behavioral interventions; and to establish standards for programs using aversive behavioral interventions.

Currently, neither New York State Education Law nor the Regulations of the Commissioner prohibit the use of aversive behavioral interventions in school programs serving New York State students. Aversive behavioral interventions have the potential to affect the health and safety of children, yet there is currently a lack of a clear policy and no standards on their use in school programs. Through site visits, reports and complaints filed by parents, school districts and others, the Department identified concerns with preschool programs serving children with disabilities that use aversive behavioral interventions such as sprays to the face and noxious tastes placed on the child's lips, and an out-of-state residential school serving more than 145 New York State students with disabilities that is using contingent food programs, mechanical restraints and electric shock interventions to modify students' behaviors. A recent site review of the out-of-state residential school identified significant concerns for the potential impact on the health and safety of New York's students placed at this school. Regulations are needed to limit the aversive behavioral interventions that inflict pain and discomfort to children and have the potential to result in physical injury and/or emotional harm. In those exceptional instances when a child displays such extreme self-injurious or aggressive behaviors as to warrant a form of punishment to intervene with the behavior, regulations are necessary to ensure that such interventions are used in accordance with the highest standards of oversight and monitoring and in accordance with research-based practices.

Emergency action to adopt the proposed rule is necessary for the preservation of the public health and safety in order to minimize the risk of physical injury and/or emotional harm to students who are subject to aversive behavioral interventions that inflict pain or discomfort, by immediately establishing standards for the use of such interventions that will ensure they are used only when absolutely necessary and under conditions of minimal intensity and duration to accomplish their purpose.

It is anticipated that the proposed rule will be presented to the Board of Regents for adoption as a permanent rule at the September 2006 meeting of the Board of Regents, which is the first scheduled meeting after expiration of the 45-day public comment period mandated by the State Administrative Procedure Act.

Subject: Behavioral interventions, including aversive behavioral interventions.

Purpose: To establish standards for behavioral interventions, including a prohibition on the use of aversive behavioral interventions; to provide for a child-specific exception to the prohibition on the use of aversive interventions; and to establish standards for programs using aversive behavioral interventions.

Public hearing(s) will be held at: 3:00-7:00 p.m., Aug. 8, 2006 at Albany, NY*; 2:00-7:00 p.m., Aug. 10, 2006 at New York City, NY*; 3:00-7:00 p.m., Aug. 15, 2006 at Syracuse, NY*

*For the specific locations and details regarding these public hearings, see announcements at: http://www.vesid.nysed.gov/specialed/timely.htm NB: Individuals planning to attend the public hearings should check this website for updated announcements prior to the hearing.

Accessibility: All public hearings have been scheduled at places reasonably accessible to persons with a mobility impairment.

Interpreter Service: Interpreter services will be made available to deaf persons, at no charge, upon written request submitted within reasonable time prior to the scheduled public hearing. The written request must be addressed to the agency representative designated in the paragraph below.

Substance of emergency/proposed rule (Full text is posted at the following State website: http://www.nysed.gov/specialed/timely.htm): The Commissioner of Education proposes to amend section 19.5 of the Rules of the Board of Regents and sections 200.1, 200.4 and 200.7 of the Regulations of the Commissioner of Education, and to add a new section 200.22 of the Commissioner's Regulations, effective June 23, 2006, relating to standards for behavioral interventions, including aversive behavioral interventions. The following is a summary of the substance of the proposed amendments.

Section 19.5(a)(1) of the Rules of the Board of Regents, as amended, provides that no teacher, administrator, officer, employee or agent of a school district in New York State, a board of cooperative educational services (BOCES), a charter school, a State-operated and State-supported school, an approved preschool program, an approved private school, an approved out-of-State day or residential school, or a registered nonpublic nursery, kindergarten, elementary or secondary school in this State, shall use corporal punishment against a pupil.

Section 19.5(b) of the Rules of the Board of Regents, as amended, establishes a prohibition on the use of aversive behavioral interventions, except as provided by a child-specific exception pursuant to proposed section 200.22(e) of the Commissioner's Regulations, and defines the term 'aversive behavioral intervention.'

Sections 200.1(lll) and (mmm) of the Commissioner's Regulations, as added, provide, respectively, definitions of the terms 'aversive behavioral intervention' and 'behavioral intervention plan.'

Section 200.4(d)(3)(i) of the Commissioner's Regulations, as amended, provides that the CSE or CPSE shall, in developing a student's IEP, consider supports and strategies to address student behaviors that are consistent with the requirements in section 200.22.

Section 200.7(a)(2)(i)(f) of the Commissioner's Regulations, as added, provides that conditional approval of private schools to serve students with disabilities shall also be based on submission for approval of the school's procedures regarding behavioral interventions, including, if applicable, procedures for the use of aversive behavioral interventions.

Section 200.7(a)(3)(iv) of the Commissioner's Regulations, as amended, provides that a school may be removed from the list of approved schools five days after written notice by the commissioner indicating that there is a clear and present danger to the health or safety of students attending the school, and listing the dangerous conditions, including but not limited to, evidence that an approved private school is using aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students without a child-specific exception provided pursuant to section 200.22 or that an approved private school is using aversive behavioral interventions in a manner inconsistent with the standards as established in section 200.22(f).

Section 200.7(b)(8) of the Commissioner's Regulations, as added, provides that except as provided in section 200.22(e), an approved private school, a State-operated school or a State-supported school is prohibited from using corporal punishment and aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students.

Section 200.7(c)(6) of the Commissioner's Regulations, as added, requires a private school that proposes to use or continue to use aversive behavioral interventions in its program shall submit, not later than August 15, 2006, its written policies and procedures on behavioral interventions to the Department with certification that the school's policies, procedures and practices are demonstrably in compliance with the standards established in section 200.22(f); provides that any school that fails to meet this requirement shall be immediately closed to new admissions of New York Students and shall be prohibited from using aversive behavioral interventions with any New York State student placed in such program; and provides that failure to comply with this requirement may result in termination of private school approval pursuant to section 200.7(a)(3).

Section 200.22 of the Commissioner's Regulations, as added, establishes program standards for behavioral interventions. This section further provides that for an education program operated pursuant to section 112 of the Education Law and Part 116 of the Regulations of the Commissioner of Education, if a provision of section 200.22 relating to use of time out rooms, emergency use of physical restraints, or aversive behavioral interventions conflicts with the rules of the respective State agency operating such program, the rules of such State agency shall prevail and the conflicting provision of section 200.22 shall not apply.

Section 200.22(a) establishes requirements for the conduct of a functional behavioral assessment to assess student behaviors.

Section 200.22(b) establishes requirements for behavioral intervention plans.

Section 200.22(c) establishes requirements regarding the use of time out rooms.

Section 200.22(d) establishes requirements for the emergency use of physical restraints.

Section 200.22(e) establishes the process for a child-specific exception to the Regents prohibition on the use of aversive behavioral interventions, including timelines and procedures for an independent panel of experts appointed by the commissioner or commissioner's designee to make a

recommendation to the CSE or CPSE and to the Commissioner as to whether a child-specific exception is warranted.

Section 200.22(f)(1) sets forth applicability provisions for the requirements set forth in the subdivision.

Section 200.22(f)(2) establishes general requirements for programs that employ the use of aversive behavioral interventions.

Section 200.22(f)(3) requires each school that uses aversive behavioral interventions to establish a Human Rights Committee to monitor the school's behavior intervention program to ensure the protection of legal and human rights of individuals.

Section 200.22(f)(4) establishes supervision and training requirements for persons who use aversive behavioral interventions.

Section 200.22(f)(5) states that aversive behavioral interventions shall be provided only with the informed written consent of the parent and no parent shall be required by the program to remove the student from the program if he or she refuses consent for an aversive behavioral interventions.

Section 200.22(f)(6) requires that the program's use of aversive behavioral interventions, including a review of all incident reports relating to such interventions, shall be subject to quality assurance reviews.

Section 200.22(f)(7) provides for ongoing monitoring of student progress in programs using aversive behavioral interventions; and requires a school district that places a student in such a program to oversee the student's education and behavior program, including review of written progress monitoring and incident reports, at least annual observations of, and, as appropriate, interviews with the student and regular communication with the student's parent; and requires the CSE or CPSE to convene a meeting at least every six months to review the student's educational program and placement.

This notice is intended to serve as both a notice of emergency adoption and a notice of proposed rule making. The emergency rule will expire September 20, 2006.

Text of rule and any required statements and analyses may be obtained from: Anne Marie Koschnick, Legal Assistant, Office of Counsel, Education Department, State Education Bldg., Rm. 148, Albany, NY 12234, (518) 473-8296, e-mail: legal@mail.nysed.gov

Data, views or arguments may be submitted to: Rebecca H. Cort, Deputy Commissioner, VESID, Education Department, One Commerce Plaza, Rm. 1606, Albany, NY 12234, (518) 473-2714, e-mail: rcort@mail.nysed.gov

Public comment will be received until: 45 days after publication of this notice.

Regulatory Impact Statement

STATUTORY AUTHORITY:

Education Law section 207 empowers the Regents and Commissioner of Education to adopt rules and regulations to carry out State education laws and functions and duties conferred on the Education Department by law.

Section 210 authorizes the Regents to register institutions in terms of New York standards.

Section 305(1) and (2) provide the Commissioner, as chief executive officer of the State education system, with general supervision over schools and institutions subject to the provisions of education law, and responsibility for executing Regents policies. Section 305(20) authorizes the Commissioner with such powers and duties charged by the Regents.

Section 4401 authorizes the Commissioner to approve private day and residential programs to serve students with disabilities.

Section 4402 establishes school district duties for education of students with disabilities.

Section 4403 outlines Department and school district responsibilities concerning education programs and services to students with disabilities.

Section 4403(3) authorizes the Department to adopt rules and regulations as the Commissioner deems in their best interests.

Section 4410 outlines education services and programs for preschool children with disabilities. Section 4410(13) authorizes the Commissioner to adopt regulations.

LEGISLATIVE OBJECTIVES:

The rule carries out the above objectives to ensure that students with disabilities are provided a free appropriate public education, including behavioral assessments and interventions consistent with federal law.

NEEDS AND BENEFITS:

The rule is necessary to establish standards for behavioral interventions, including a prohibition on use of aversive behavioral interventions (ABIs); to provide for a child specific exception; and to establish standards for programs using ABIs. The rule ensures that ABIs are used only when necessary; in accordance with research-based practices; under conditions of minimal intensity and duration to accomplish their purpose; and in accordance with the highest standards of oversight and monitoring.

The rule is, in part, based on the following studies.

"On the Status of Knowledge for Using Punishment: Implications for Treating Behavior Disorders," Dorothea C. Lerman and Christina M. Vorndran, Louisiana State University and the Louisiana Center for Excellence in Autism (Journal of Applied Behavior Analysis, 2002, 35, 431-464). This report, highlighting research findings relating to use of punishment to treat problem behaviors, was considered in developing standards for ABIs, including that ABIs be combined with reinforcement procedures; include procedures for generalization and maintenance of behaviors and for fading ABI use; be limited to behaviors of greatest concern; apply the lowest intensity and duration; employ strategies that increase the effectiveness of mild levels of ABIs; and use alternative procedures other than increasing an ABI's magnitude when an aversive fails to suppress a behavior over time. The report discussed ethical and practical issues surrounding use of punishers to change behaviors and side effects of punishment including collateral effects as emotional reactions, and increases in aggressive and/or escape behaviors. The criteria to be used by the independent panel is based, in part, upon information in this study that ABIs may be indicated when the variables maintaining a problem behavior cannot be identified; when problem behavior must be suppressed rapidly to prevent serious physical harm; or when other interventions have not reduced self-injurious behavior to clinically acceptable levels without use of punishment-based interventions.

"Establishing and Maintaining Treatment Effects with Less Intrusive Consequences Via a Paring Procedure", Christina M. Vorndran and Dorothea C. Lerman, Louisiana State University (Journal of Applied Behavior Analysis, 2006, 39, 35-48) discussed the need to design interventions using punishment to be the least intrusive possible and to include strategies to improve an ABI's effectiveness and acceptability. This study was considered in proposing standards that ABIs be implemented consistent with peer-reviewed research based practices; include individualized procedures for the generalization and maintenance of behaviors and for the fading of ABI use; and employ strategies to increase the effectiveness of mild levels of ABIs.

"Contingent Electric Shock (SIBIS) and a Conditioned Punisher Eliminate Severe Head Banging in a Preschool Child", Sarah-Jeanne Salvy, James A. Mulick, Eric Butter, Rita Kahng Bartlett and Thomas R. Linscheid, (Behavioral Interventions, 2004, 19:59-72), published online in Wiley InterScience (www.interscience.wiley.com), which discussed strategies that increase the effectiveness of mild levels of ABIs, was considered in establishing standards for ABI use.

"School-wide Positive Behavior Support Implementer's Blueprint and Self-Assessment" (Center on Positive Behavioral Interventions and Supports, University of Oregon, 2004), which discussed research findings relating to negative side effects associated with the exclusive use of punishing environments and consequences, and "Why Must Behavior Intervention Plans Be Based on Functional Assessments?", G. Roy Mayer, California State University, Los Angeles, 1997 (published online at www.calstatela.edu/academic/adm_coun/docs/501/funcart.html) were considered in proposing standards for assessing and addressing collateral effects of the use of punishment. These studies identified that punishment-based interventions can lead to students engaging in aggressive and/or escape behaviors and foster development of negative attitudes toward self and school programs. Mayer's article also identified that when reinforcement approaches are used to reduce behavior that match the function or reasons for the behavior, they are "just as effective as punishment approaches when used on self-injurious behavior of individuals with disabilities." Mayer's finding was considered in proposing the requirement that ABIs be combined with reinforcement procedures, as individually determined based on an assessment of the student's reinforcement preferences.

"Physical Restraint in School", Joseph B. Ryan and Reece L. Peterson, University of Nebraska-Lincoln, 2005, which discusses research, court and Office of Civil Rights rulings on individual rights of students, restraint procedures and professional training for emergency interventions, including the use of physical restraint in educational settings, was considered in proposing policy and standards for emergency physical restraint interventions.

"Functional Behavioral Assessment: Policy Development in Light of Emerging Research and Practice", W. David Tilly, Joseph Kovaleski, Glen Dunlap, Timothy Knoster, Linda Bambara, Donald Kincaid, (March 24, 1998), developed at request of National Association of State Directors of Special Education (NASDSE) and "A Practical Guide to Functional Be-

havioral Assessment" Margaret E. Shippen, Robert G. Simpson and Steven A Crites, (Teaching Exceptional Children, Vol. 35, No. 5, pp. 36-44, 2003, Council for Exceptional Children) were considered in the development of standards for functional behavioral assessments (FBAs)and behavioral intervention plans (BIPs).

COSTS:

a. Costs to State government: See costs to the Education Department.

b. Costs to local governments: None.

c. Costs to regulated parties: School districts may incur minimal costs to duplicate materials to submit an application for a child-specific exception and for required observations (estimated at a $200 per student) and Committee on Special Education (CSE) or Committee on Preschool Special Education (CPSE) meetings at least every six months for students receiving aversive behavioral interventions (estimated at $1,000 per student). Currently, it is estimated that less than 30 school districts in New York State have students placed in schools using ABIs and most of these have only one student where such a recommendation currently appears on the student's individualized education program (IEP). Schools using ABIs may also incur additional administrative costs estimated at less than $8,000 annually for implementing standards, including training (estimated at $2,000 annually) and costs associated with convening Human Rights Committee meetings at least quarterly (*e.g.*, administrative oversight, duplication and meeting costs estimated at $6,000 per year).

d. Costs to the Education Department of implementation and continuing compliance: The cost of funding a three-member independent panel of experts to provide a recommendation regarding the need for a child-specific exception is estimated at approximately $360,000 for the first year. This calculation was based on approximately 100 requests for child-specific exceptions, at an estimated cost of $3,600 for each student. Additional costs for State administration and oversight of the child-specific exception, including duplication of materials for the panel are estimated at $10,000 annually. The annual costs of the review panel are expected to be less in subsequent years. These costs may be offset if the CSE/CPSE determines that a student no longer requires ABIs since the cost for one student currently placed in an out-of-state residential school for ABIs ranges from $281,180 to $329,970 per year.

LOCAL GOVERNMENT MANDATES:

Section 19.5(a) prohibits use of corporal punishment in school districts, BOCES, charter schools, State-operated or State supported schools, approved preschool programs, approved private schools, approved out-of-State day or residential schools, or in registered nonpublic nursery, kindergarten, elementary or secondary schools in the State.

Section 19.5(b) prohibits use of ABIs except pursuant to a child-specific exception pursuant to section 200.22(e) and (f).

Section 200.4(d)(3)(i) requires a CSE/CPSE, in developing a student's IEP, to consider supports and strategies to address student behaviors that are consistent with program standards in section 200.22 relating to a student's FBA, BIP, use of time out rooms, emergency interventions and ABIs.

A CSE/CPSE shall conduct a FBA in accordance with section 200.22(a) and develop and implement a BIP in accordance with 200.22(b).

Each school, which uses a time out room as part of its behavior management approach, is subject to section 200.22(c) requirements.

Section 200.22(d) establishes requirements regarding emergency use of physical restraints.

Section 200.22(e) provides, effective on or after October 1, 2006, whenever a CSE/CPSE is considering whether a child-specific exception to the prohibition of the use of ABIs is warranted, the school district shall submit an application to the Commissioner for referral to an independent panel of experts. The CSE/CPSE shall, based on its consideration of the recommendation of the panel, determine whether the student's IEP shall include a child-specific exception allowing the use of ABIs. The school district shall notify the Commissioner when such exemption has been included in the student's IEP. An IEP providing such exemption shall identify the specific targeted behaviors, ABIs to be used, and aversive conditioning devices where the ABIs include use of such devices.

Public schools, BOCES, charter schools, approved preschool programs, approved private schools, State-operated or State-supported schools in NYS and approved out-of-State day or residential schools are subject to section 200.22(f) program standards for use of ABIs. Each school using ABIs shall establish a Human Rights Committee pursuant to section 200.22(f)(3)to monitor the program. Persons using ABIs shall be supervised and trained pursuant to section 200.22(f)(4). Pursuant to section 200.22(f)(5), ABIs shall be provided only with the parent's informed written consent and no parent shall be required by the program to remove the student from the program if the parent refuses consent. Use of ABIs is subject to quality assurance reviews pursuant to section 200.22(f)(6) and the program shall provide for ongoing monitoring of student progress pursuant to section 200.22(f)(7), including quarterly written progress reports. A school district placing a student in such program shall ensure the student's IEP and BIP are being implemented. The CSE/CPSE shall convene at least every six months to review the student's educational program and placement, including review of written progress monitoring and incident reports, at least annual observations of, and, as appropriate, interviews with the student and regular communication with the parent. Each school proposing to use ABIs pursuant to a child-specific exception shall submit its policies and procedures consistent with section 200.22(f) to the Department for approval prior to use.

PAPERWORK:

CSEs/CPSEs must compile and submit student record information and school districts must submit an application for a child-specific exception to the prohibition on the use of ABIs. Currently there are approximately 23 school districts that have students recommended for ABIs.

DUPLICATION:

The rule will not duplicate, overlap or conflict with any other State or federal statute or regulation.

ALTERNATIVES:

The Department considered other states' experiences with statutes and/or regulations prohibiting ABIs in school programs, including definitions, child-specific exceptions and standards; conducted a review of the research literature; and sought expertise of individuals with credentials in behavioral psychology. The Department considered a full prohibition on the use of ABIs, but determined there may be exceptional circumstances in which a student may be displaying behaviors that threaten the health or safety of the student for which ABIs may be warranted.

FEDERAL STANDARDS:

The rule does not exceed any minimum federal standards.

COMPLIANCE SCHEDULE:

It is anticipated regulated parties will be able to achieve compliance with the rule by its effective date.

Regulatory Flexibility Analysis

Small Businesses:

The proposed rule is necessary to establish standards for behavioral interventions, including a prohibition on the use of aversive behavioral interventions for students with disabilities; to provide for a child specific exception to the prohibition on the use of aversive behavioral interventions; and to establish standards for programs using aversive behavioral interventions and do not impose any adverse economic impact, reporting, recordkeeping or any other compliance requirements on small businesses. Because it is evident from the nature of the rule that it does not affect small businesses, no affirmative steps are needed to ascertain that fact and none were taken. Accordingly, a regulatory flexibility analysis is not required and one has not been prepared.

Local Governments:

The proposed rule applies to all public school districts, boards of cooperative educational services (BOCES) and charter schools in this State. Currently, there are approximately 23 school districts that have students recommended for aversive behavioral interventions.

COMPLIANCE REQUIREMENTS:

Section 19.5(a) of the Regents Rules prohibits use of corporal punishment in school districts, BOCES, charter schools, State-operated or State supported schools, approved preschool programs, approved private schools, approved out-of-State day or residential schools, or in registered nonpublic nursery, kindergarten, elementary or secondary schools in the State.

Section 19.5(b) prohibits use of ABIs except pursuant to a child-specific exception pursuant to section 200.22(e) and (f).

Section 200.4(d)(3)(i) of the Commissioner's Regulations requires a CSE/CPSE, in developing a student's IEP, to consider supports and strategies to address student behaviors that are consistent with program standards in section 200.22 relating to a student's FBA, BIP, use of time out rooms, emergency interventions and ABIs.

Section 200.7(a)(2)(i)(f) provides that conditional approval of private schools to serve students with disabilities shall also be based on submission for approval of the school's procedures regarding behavioral interventions, including, if applicable, procedures for the use of aversive behavioral interventions.

Section 200.7(a)(3)(iv) that a school may be removed from the list of approved schools five days after written notice by the commissioner indicating that there is a clear and present danger to the health or safety of

students attending the school, and listing the dangerous conditions, including but not limited to, evidence that an approved private school is using aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students without a child-specific exception provided pursuant to section 200.22 or that an approved private school is using aversive behavioral interventions in a manner inconsistent with the standards as established in section 200.22(f).

Section 200.7(b)(8) provides that except as provided in section 200.22(e), an approved private school, a State-operated school or a State-supported school is prohibited from using corporal punishment and aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students.

Section 200.7(c)(6) requires a private school that proposed to use or continue to use aversive behavioral interventions in its program shall submit, not later than August 15, 2006, its written policies and procedures on behavioral interventions to the Department with certification that the school's policies, procedures and practices are demonstrably in compliance with the standards established in section 200.22(f); provides that any school that fails to meet this requirement shall be immediately closed to new admissions of New York Students and shall be prohibited from using aversive behavioral interventions with any New York State student placed in such program; and provides that failure to comply with this requirement may result in termination of private school approval pursuant to section 200.7(a)(3).

A CSE/CPSE shall conduct a FBA in accordance with section 200.22(a) and develop and implement a BIP in accordance with 200.22(b).

Each school that uses a time out room as part of its behavior management approach is subject to section 200.22(c) requirements.

Section 200.22(d) establishes requirements regarding emergency use of physical restraints.

Section 200.22(e) provides, effective on or after October 1, 2006, whenever a CSE/CPSE is considering whether a child-specific exception to the prohibition of the use of ABIs is warranted, the school district shall submit an application to the Commissioner for referral to an independent panel of experts. The CSE/CPSE shall, based on its consideration of the recommendation of the panel, determine whether the student's IEP shall include a child-specific exception allowing the use of ABIs. The school district shall notify the Commissioner when such exemption has been included in the student's IEP. An IEP providing such exemption shall identify the specific targeted behaviors, ABIs to be used, and aversive conditioning devices where the ABIs include use of such devices.

Public schools, BOCES, charter schools, approved preschool programs, approved private schools, State-operated or State-supported schools in NYS and approved out-of-State day or residential schools are subject to section 200.22(f) program standards for use of ABIs. Each school using ABIs shall establish a Human Rights Committee pursuant to section 200.22(f)(3)to monitor the program. Persons using ABIs shall be supervised and trained pursuant to section 200.22(f)(4). Pursuant to section 200.22(f)(5), ABIs shall be provided only with the parent's informed written consent and no parent shall be required by the program to remove the student from the program if the parent refuses consent. Use of ABIs is subject to quality assurance reviews pursuant to section 200.22(f)(6) and the program shall provide for ongoing monitoring of student progress pursuant to section 200.22(f)(7), including quarterly written progress reports. A school district placing a student in such program shall ensure the student's IEP and BIP are being implemented. The CSE/CPSE shall convene at least every six months to review the student's educational program and placement, including review of written progress monitoring and incident reports, at least annual observations of, and, as appropriate, interviews with the student and regular communication with the parent. Each school proposing to use ABIs pursuant to a child-specific exception shall submit its policies and procedures consistent with section 200.22(f) to the Department for approval prior to use.

PROFESSIONAL SERVICES:

The proposed amendment will not impose any additional professional service requirements on school districts, BOCES or charter schools.

COMPLIANCE COSTS:

School districts may incur minimal costs to duplicate materials to submit an application for a child-specific exception and for required observations (estimated at a $200 per student) and Committee on Special Education (CSE) or Committee on Preschool Special Education (CPSE) meetings at least every six months for students receiving aversive behavioral interventions (estimated at $1,000 per student). Currently, it is estimated that less than 30 school districts in New York State have students placed in schools using ABIs and most of these have only one student where such a recommendation currently appears on the student's individualized education program (IEP). Schools using ABIs may also incur additional administrative costs estimated at less than $8,000 annually for implementing standards, including training (estimated at $2,000 annually) and costs associated with convening Human Rights Committee meetings at least quarterly (*e.g.*, administrative oversight, duplication and meeting costs estimated at $6,000 per year).

ECONOMIC AND TECHNOLOGICAL FEASIBILITY:

The proposed rule does not impose any new technological requirements. Economic feasibility is addressed above under compliance costs.

MINIMIZING ADVERSE IMPACT:

The proposed rule is necessary to implement Regents policy to establish standards for behavioral interventions, including a prohibition on the use of aversive behavioral interventions; to provide for a child specific exception to the prohibition on the use of aversive behavioral interventions; and to establish standards for programs using aversive behavioral interventions. In developing the proposed amendment, the Department considered other states' experiences with statutes and/or regulations prohibiting aversive behavioral interventions in school programs, including definitions, child-specific exceptions and standards; conducted a review of the research literature; and sought the professional expertise of individuals with credentials in behavioral psychology. The Department considered a full prohibition on the use of aversive behavioral interventions, but determined that there may be exceptional circumstances in which a student may be displaying behaviors that threaten the health or safety of the student for which aversive behavioral interventions may be warranted. The proposed rule will ensure that aversive behavioral interventions are used only when necessary; in accordance with research-based practices and the highest standards of oversight and monitoring; under conditions of minimal intensity and duration to accomplish their purpose; and consistent with the requirements of the Individuals with Disabilities Education Act (IDEA).

LOCAL GOVERNMENT PARTICIPATION:

Copies of the proposed rule will be provided to District Superintendents with the request that they distribute it to school districts within their supervisory districts for review and comment. In addition, the State Education Department will schedule public hearings on the proposed amendments.

Rural Area Flexibility Analysis

TYPES AND ESTIMATED NUMBERS OF RURAL AREAS:

The rule will apply to all public school districts, boards of cooperative educational services (BOCES), charter schools, State-operated and State-supported schools, approved preschool programs, approved private schools, approved out-of-state day or residential schools, and registered nonpublic nursery, kindergarten, elementary or secondary schools in this State, including those in the 44 rural counties with less than 200,000 inhabitants and the 71 towns in urban counties with population density of 150 per square miles or less.

REPORTING, RECORDKEEPING AND OTHER COMPLIANCE REQUIREMENTS AND PROFESSIONAL SERVICES:

Section 19.5(a) of the Regents Rules prohibits use of corporal punishment in school districts, BOCES, charter schools, State-operated or State supported schools, approved preschool programs, approved private schools, approved out-of-State day or residential schools, or in registered nonpublic nursery, kindergarten, elementary or secondary schools in the State.

Section 19.5(b) prohibits use of ABIs except pursuant to a child-specific exception pursuant to section 200.22(e) and (f).

Section 200.4(d)(3)(i) of the Commissioner's Regulations requires a CSE/CPSE, in developing a student's IEP, to consider supports and strategies to address student behaviors that are consistent with program standards in section 200.22 relating to a student's FBA, BIP, use of time out rooms, emergency interventions and ABIs.

Section 200.7(a)(2)(i)(f) provides that conditional approval of private schools to serve students with disabilities shall also be based on submission for approval of the school's procedures regarding behavioral interventions, including, if applicable, procedures for the use of aversive behavioral interventions.

Section 200.7(a)(3)(iv) that a school may be removed from the list of approved schools five days after written notice by the commissioner indicating that there is a clear and present danger to the health or safety of students attending the school, and listing the dangerous conditions, including but not limited to, evidence that an approved private school is using aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students without a child-specific exception provided pursuant to

section 200.22 or that an approved private school is using aversive behavioral interventions in a manner inconsistent with the standards as established in section 200.22(f).

Section 200.7(b)(8) provides that except as provided in section 200.22(e), an approved private school, a State-operated school or a State-supported school is prohibited from using corporal punishment and aversive behavioral interventions to reduce or eliminate maladaptive behaviors of students.

Section 200.7(c)(6) requires a private school that proposed to use or continue to use aversive behavioral interventions in its program shall submit, not later than August 15, 2006, its written policies and procedures on behavioral interventions to the Department with certification that the school's policies, procedures and practices are demonstrably in compliance with the standards established in section 200.22(f); provides that any school that fails to meet this requirement shall be immediately closed to new admissions of New York Students and shall be prohibited from using aversive behavioral interventions with any New York State student placed in such program; and provides that failure to comply with this requirement may result in termination of private school approval pursuant to section 200.7(a)(3).

A CSE/CPSE shall conduct a FBA in accordance with section 200.22(a) and develop and implement a BIP in accordance with 200.22(b).

Each school that uses a time out room as part of its behavior management approach is subject to section 200.22(c) requirements.

Section 200.22(d) establishes requirements regarding emergency use of physical restraints.

Section 200.22(e) provides, effective on or after October 1, 2006, whenever a CSE/CPSE is considering whether a child-specific exception to the prohibition of the use of ABIs is warranted, the school district shall submit an application to the Commissioner for referral to an independent panel of experts. The CSE/CPSE shall, based on its consideration of the recommendation of the panel, determine whether the student's IEP shall include a child-specific exception allowing the use of ABIs. The school district shall notify the Commissioner when such exemption has been included in the student's IEP. An IEP providing such exemption shall identify the specific targeted behaviors, ABIs to be used, and aversive conditioning devices where the ABIs include use of such devices.

Public schools, BOCES, charter schools, approved preschool programs, approved private schools, State-operated or State-supported schools in NYS and approved out-of-State day or residential schools are subject to section 200.22(f) program standards for use of ABIs. Each school using ABIs shall establish a Human Rights Committee pursuant to section 200.22(f)(3) to monitor the program. Persons using ABIs shall be supervised and trained pursuant to section 200.22(f)(4). Pursuant to section 200.22(f)(5), ABIs shall be provided only with the parent's informed ~~written consent and no parent shall be required by the program to remove~~ the student from the program if the parent refuses consent. Use of ABIs is subject to quality assurance reviews pursuant to section 200.22(f)(6) and the program shall provide for ongoing monitoring of student progress pursuant to section 200.22(f)(7), including quarterly written progress reports. A school district placing a student in such program shall ensure the student's IEP and BIP are being implemented. The CSE/CPSE shall convene at least every six months to review the student's educational program and placement, including review of written progress monitoring and incident reports, at least annual observations of, and, as appropriate, interviews with the student and regular communication with the parent. Each school proposing to use ABIs pursuant to a child-specific exception shall submit its policies and procedures consistent with section 200.22(f) to the Department for approval prior to use.

The proposed amendment will not impose any additional professional service requirements on school districts.

COSTS:

School districts may incur minimal costs to duplicate materials to submit an application for a child-specific exception and for required observations (estimated at a $200 per student) and Committee on Special Education (CSE) or Committee on Preschool Special Education (CPSE) meetings at least every six months for students receiving aversive behavioral interventions (estimated at $1,000 per student). Currently, it is estimated that less than 30 school districts in New York State have students placed in schools using ABIs and most of these have only one student where such a recommendation currently appears on the student's individualized education program (IEP). Schools using ABIs may also incur additional administrative costs estimated at less than $8,000 annually for implementing standards, including training (estimated at $2,000 annually) and costs associated with convening Human Rights Committee meetings at least quarterly (*e.g.*, administrative oversight, duplication and meeting costs estimated at $6,000 per year).

MINIMIZING ADVERSE IMPACT:

The proposed rule is necessary to implement Regents policy to establish standards for behavioral interventions, including a prohibition on the use of aversive behavioral interventions; to provide for a child specific exception to the prohibition on the use of aversive behavioral interventions; and to establish standards for programs using aversive behavioral interventions. In developing the proposed amendment, the Department considered other states' experiences with statutes and/or regulations prohibiting aversive behavioral interventions in school programs, including definitions, child-specific exceptions and standards; conducted a review of the research literature; and sought the professional expertise of individuals with credentials in behavioral psychology. The Department considered a full prohibition on the use of aversive behavioral interventions, but determined that there may be exceptional circumstances in which a student may be displaying behaviors that threaten the health or safety of the student for which aversive behavioral interventions may be warranted. The proposed rule will ensure that aversive behavioral interventions are used only when necessary; in accordance with research-based practices and the highest standards of oversight and monitoring; under conditions of minimal intensity and duration to accomplish their purpose; and consistent with the requirements of the Individuals with Disabilities Education Act (IDEA). The proposed amendments are necessary to ensure the health and safety of students. Since these requirements apply to all school districts, BOCES, charter schools, and other affected entities in the State, it is not possible to adopt different standards for entities located in rural areas.

RURAL AREA PARTICIPATION:

The proposed rule will be submitted for discussion and comment to the Department's Rural Education Advisory Committee that includes representatives of school districts in rural areas. In addition, the State Education Department will schedule public hearings on the proposed amendments.

Job Impact Statement

The proposed rule is necessary in order to establish standards for behavioral interventions for students with disabilities, including a prohibition on the use of aversive behavioral interventions; to provide for a child specific exception to the prohibition on the use of aversive behavioral interventions; and to establish standards for programs using aversive behavioral interventions. These amendments will ensure that aversive behavioral interventions are used only when necessary; in accordance with research-based practices; under conditions of minimal intensity and duration to accomplish their purpose; and in accordance with the highest standards of oversight and monitoring. The proposed rule will not have a substantial impact on jobs and employment opportunities. Because it is evident from the nature of the rule that it will not affect job and employment opportunities, ~~no affirmative steps were needed to ascertain that fact and none were~~ taken. Accordingly, a job impact statement is not required, and one has not been prepared.

NOTICE OF ADOPTION

Uniform Violent and Disruptive Incident Reporting System

I.D. No. EDU-45-05-00008-A
Filing No. 785
Filing date: June 23, 2006
Effective date: July 13, 2006

PURSUANT TO THE PROVISIONS OF THE State Administrative Procedure Act, NOTICE is hereby given of the following action:

Action taken: Amendment of section 100.2(gg) of Title 8 NYCRR.

Statutory authority: Education Law, sections 101 (not subdivided), 207 (not subdivided), 305(1) and (2), 2801(1) and 2802(2), (3), (4) and (6) and L. 2005, ch. 402

Subject: Uniform violent and disruptive incident reporting system.

Purpose: To provide a ranking, standard for reporting, and more concise definition of reportable offenses as required by the uniform violent and disruptive incident reporting system for the reporting of incidents by school districts, BOCES, charter schools and county vocational education and extension boards, as required by Education Law, section 2802, and to establish the use of a school violence index as a comparative measure of the level of school violence in a school.

Text or summary was published in the notice of proposed rule making, I.D. No. EDU-45-05-00008-P, Issue of November 9, 2005.

Final rule as compared with last published rule: No changes.